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ABSTRACT

Developed by the Learning Resource Centres (LRC) Project Team at Sir Sanford Fleming College, in Ontario, Canada, this report presents a model for establishing LRCs at the college. The first section reviews the need for LRCs, including the provision of lifelong learning and expected funding decreases for traditional operations. The next sections describe the purposes of an LRC and review key principles and assumptions guiding the development of the LRC model. The next five sections detail the model LRC, each section highlighting one of the following five components: access services; a center for instructional design and development, providing support for curriculum development; a learning commons, or open computing facility; distance delivery; and technological support for traditional delivery methods. The next sections describe an implementation schedule for the five components and a vision for the future of LRCs, including an implementation timeline from January 1996 to January 1998 and floor plans from existing LRCs. The next section highlights the benefits that administrators, faculty, and staff would obtain from an LRC, while the following section describes the organizational structure of the model LRC. The final sections review the model LRC's role in maintaining college partnerships and strategies for marketing and evaluation. Contains 20 references. Appendixes provide a glossary, results from a campus needs assessment, lists of LRC Task Force and Advisory Committee members, reports from site visits to LRCs at 12 colleges, and a 77-item bibliography. (AJL)

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LRC PROJECT TEAM
REPORT

LEARNING RESOURCE CENTRES

AT
SIR SANDFORD FLEMING COLLEGE

DECEMBER 1995

SUSAN MARKANEN
PAT PARNALL
KAREN SJOLIN
JIM ANGEL

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We would like to say thank you to many people at Sir Sandford Fleming College who assisted us with this project:

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- The LRC Advisory Committee
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We would also like to thank our colleagues at other institutions who provided us with their time and expertise. We would particularly like to thank Paul Van Nest of St. Lawrence College who gave us a wealth of information and leads early in the project.

The LRC Project Team:

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Pat Parnall
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December, 1995

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EXECUTIVE SUMMARY

> The college system is currently being challenged to implement a multitude of initiatives designed to provide learners with more relevant, practical and flexible learning experiences. As the development of information technologies continues to reshape the workplace, Ontario Colleges must keep pace with the information revolution and continue to provide a wide range of learning options (Honsberger, 1995, p. 1).

At Sir Sandford Fleming College, the Master Academic Framework (MAF) designed by Dr. Elizabeth Ashton in January 1994 provided an initial planning framework to meet this challenge. The overriding principle of the Master Academic Framework is to provide an educational model where delivery is more learner-centred, flexible and customized.

Through the creation of Learning Resource Centres (LRCs), Fleming College can meet these challenges. The LRC Project Team was seconded to develop a comprehensive plan to enable Fleming to provide more flexible learning opportunities. The team conducted a needs assessment of College staff, visited other institutions operating LRCs, conducted an extensive research of current LRC literature, and worked with an advisory group in preparation for the recommended model.

The model developed and recommended for implementation at Fleming is one that incorporates five components. Each focuses on and supports learners at Sir Sandford Fleming College while recognizing the implications for learners learning in a new way:

I. *Access Services:* The area of initial contact incorporating front end assessment, advising, registration, and referral.

II. *Centre for Instructional Design & Development:* The area providing support and expertise for instructional design and development for adapting and/or creating curriculum.

III. *Learning Commons:* An open computing facility where learners work on a variety of courses and learning experiences, including self-paced, open entry courses, open computing components of more traditionally delivered courses, remedial courseware, as well as less structured opportunities that are facilitated by improved access to information resources.

IV. *Distance Delivery:* The technical infrastructure and support services necessary to allow access to learners who are unable or unwilling to attend more traditionally delivered courses.

V. *Technological Enhancements to Traditional Delivery:* The expertise, equipment and support required to provide faculty teaching in more traditional modes the ability to enhance learning experiences in new ways.

The LRCs also have implications for other areas of the College; for example, staff development. Adequate support for the development and updating of skills needs to occur within a context of effective performance management. Detailed professional development plans as well as opportunities for growth through special initiatives such as the *Academic Innovations Project* or the *Innovation Showcase* will be critical.

Partnerships will become increasingly important to the development of Fleming offerings. Current negotiations with partners (e.g., Bell, Mitel) will continue for the mutual benefit to all partners.

As the LRCs increase access and flexibility to all learners through expanding learning opportunities, the College must plan outreach and promotion of the facilities and services it offers.

The implementation of a well articulated evaluation plan can assist in the appropriate development of all components of an LRC. Evaluation strategies will be planned for and set in motion in all areas of the LRCs as soon as possible.

This Learning Resource Centres Project team report presents a model of an LRC for Fleming and the critical supports required. In addition, the report contains an appendix of supporting material for alternate delivery.

THE NEED FOR LEARNING RESOURCE CENTRES AT FLEMING

> The college system is currently being challenged to implement a multitude of initiatives designed to provide learners with more relevant, practical and flexible learning experiences. As the development of information technologies continues to reshape the workplace, Ontario Colleges must keep pace with the information revolution and continue to provide a wide range of learning options. These challenges have arisen at a time when colleges, individually and as a system, are struggling to maintain quality in the face of increased demand for services and severe financial constraints (Honsberger, 1995, p.1).

At least four significant forces are compelling the colleges to change.

1. Fundamental shifts in our economy are changing the nature of work, jobs and careers, thus creating new student needs and expectations. Learners educated for success in the information rich 21st century must be competent in the three A's (Acquire, Analyze, Access) as they are in the three R's. Lifelong learning will be mandatory to survive in the job market. Two thirds of the workers to come will be engaged in some type of information work. Educators must continue to implement instructional models that encourage learners to be actively engaged in the acquisition of what they need to know (Lever, 1993).

2. Equally fundamental is the significant decrease in government funding available for post secondary education. We can not access more money to maintain our traditional operations; we must look for and develop "new approaches that are sustainable within a new reality" (Learning-Centred Education in Ontario's Colleges, 1995, p. 2).

   "In college today, participants must recognize the financial challenge and the urgency accompanying it, but the essence of the debate must be about education - about teaching and learning" (Learning-Centred Education in Ontario's Colleges, 1995, p.9).

3. Educational research has expanded our understanding of how individuals learn.

   Traditional classroom delivery requires that learners be at a given place at a given time. Societal changes have made this model less appropriate for many members of our learning population. By designing flexible delivery systems, educational institutions can create alternative, accessible and meaningful learning opportunities to better meet learners' needs.

As adult learners take on more responsibilities, their readiness to learn becomes increasingly oriented to the development of skills which help them fulfil their societal roles. This implies that the timing and sequencing of learning opportunities must be as closely aligned as possible with their needs. Thus educational institutions must constantly strive to strike a balance between the needs of the learner and the requirements of the discipline being learned.

We need to provide learners with opportunities to demonstrate achievement of learning outcomes and to provide a learning-centred environment and resources to support achievement of those outcomes when the learner requires them.

We need to use all available resources at the College for educating our learners including faculty, library staff, counsellors, tutors, technical staff and technology-based resources. We need to provide learners with "tools to participate in and direct their own learning, including the use of technologies that are not time and space-bound" (Learning-Centred Education in Ontario's Colleges, 1995, p.3).

Did you know?

- Almost every one of the 203 colleges across the country is engaged in some distance activity (Council of Ministers of Education, 1993).
- Statistics Canada's 1994 Adult Education and Training Survey estimated that over 400,000 Canadian students were enrolled in some type of distance education course or program that year (Frank, 1995, p. 7).
- Projections indicate that by the 21st century two out of three Canadian homes will have at least one personal computer; telecommuting will increase 20-30% every year (Frank, 1995, p. 6).
- In 1995, between 28.8 and 40% of Canadian homes had a home computer, up from 10% in 1986. "In these households, 17% of Canadians, or 3.4 million people, are on line in one form or another and 1.3 million connect from their homes; 41.8% of home computers have a modem, up from 33.7% in 1994" (Kapica, 1995, p. A14).
- According to the 1994 General Social Survey, 56% of adult Canadians (12.3 million) were able to use a computer - up substantially from 47% in 1989; in 1994, 81% of people aged 15 - 24 were able to use a computer (Frank, 1995, p. 6).

4. Information technology is affecting learning and our roles as learners as much as any other aspect of our lives (Learning-Centred Education in Ontario's Colleges, 1995). Advances in technology and in computer technology have brought about an information revolution. We have

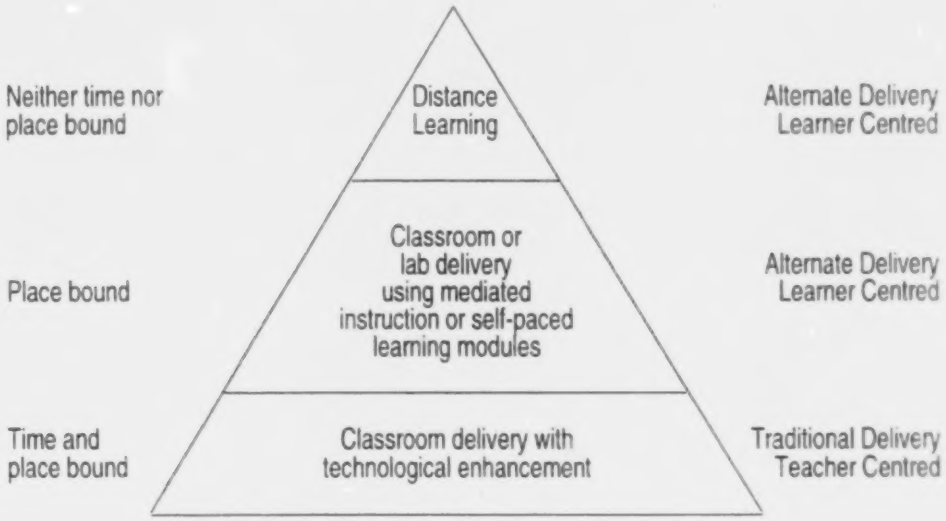
moved from the Industrial Age to the Information Age where information technology is transforming the way we think, work and learn. The rapid evolution of telephone, cable, satellite and computer networks, combined with technological breakthroughs in computer processing and speeds and information storage have made this latest revolution possible (Frank, 1995).

We need to prepare learners for the 3A's and for their roles in this Information Age.

The LRC Project

"The Master Academic Framework document (*Towards 2003: A New Educational Direction*) developed by Liz Ashton in January 1994 provided an initial planning framework for Fleming. The over-riding principle is to provide an educational model where delivery is more learner centred, flexible and customized" (Honsberger, 1995, P. 1).

Included in the Master Academic Framework (MAF) is the following graphic describing student learning opportunities (Ashton, 1994, p. 3):


Neither time nor place bound
Distance Learning
Alternate Delivery Learner Centred
Place bound
Classroom or lab delivery using mediated instruction or self-paced learning modules
Alternate Delivery Learner Centred
Time and place bound
Classroom delivery with technological enhancement
Traditional Delivery Teacher Centred

The LRC project team was charged with the responsibility of developing a comprehensive plan to enable Fleming to provide more flexible learning opportunities over the coming years.

Based on the content of the Master Academic Framework and the work of the LRC Task Force, the LRC Project Team conducted a needs assessment survey in

August 1995. The top six functions and services identified were

- expertise for delivery of curriculum in alternate formats
- expertise for faculty designing traditional and alternate delivery curriculum
- front end assessment
- open computer labs for self-paced learning
- expertise for the development of educational/course software
- computer search/research facilities.

An extensive literature search of LRC models was conducted, and the team visited several institutions where various components were being implemented. (Trip reports for all visits are included in Appendix E.)

In developing a model for the LRCs at Sir Sandford Fleming College, the project team started by trying to identify all the possible learning opportunities that could exist for our students. From there, the team looked to see what services were needed to support learners and faculty and staff in order to make a wider range of these learning opportunities available.

A description of the expanded learning opportunities and the supports required to implement them form the recommended model for LRCs at Fleming.

WHAT IS AN LRC?

The primary purpose of the LRCs at Fleming is to provide expanded learning opportunities for the entire College population: students, support staff, adminstration, faculty and the communities we serve. In order to do this, processes and facilities that provide support and consistency for alternate delivery must be put in place.

Overwhelmingly, educators point out that decisions about alternate deliveries must stay focused on instructional goals, content requirements and learners' needs rather than be driven by technology (Watkins & Goulding, 1993). The process of teaching and learning is primary and the technology must allow the learner and teacher to concentrate on that process. However, appropriate choices can be made for delivery based on learners' needs, learning styles, curriculum and costs.

As the following chart depicts, structured learning opportunities can be divided into *collective learning opportunities* and *individual learning opportunities*, based on the absence or presence of opportunities for interaction among students. These categories are further subdivided into *off campus* and *on campus* opportunities.

STUDENT LEARNING OPPORTUNITIES

Collective Learning Opportunities

Off Campus		**On Campus**		
Learner defined site (home, business)	*Remote access site* (e.g., public library, other campuses)	*Traditional delivery*	*Traditional delivery with open computing activities*	*Technological enhancements to traditional delivery*
•teleconferencing •audiographics (s/w for home use) •computer conferencing •Internet-based	•audio & video conferencing •audiographics •computer conferencing	•lectures •seminars •experiential labs •field placement •camp		•multimedia lecture presentations •e-mail interaction with students outside of scheduled classes •computer-based simulations

Individual Learning Opportunities

Off Campus		**On Campus**
Learner defined site	*Remote access site*	*Open computing facility (Learning Commons)*
•"course in a box" •computer mediated (CD-ROM, Internet-based, etc.) •Independent Learning Option (ILO)	•computer mediated (CD-ROM, Internet-based, etc.) •ILO	•self-paced, open-entry courses •remediation activities •independent learning option (ILO)

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Explanations of some of the structured learning opportunities included in this table follow:

- open-entry courses: self-paced, primarily computer-based courses which students can start when it is most convenient for them and complete within a fixed time frame.
- independent learning options (ILO): learners negotiate, with a teacher, the learning activities that they will use to achieve the stated learning outcomes for a particular course.
- distance courses: a variety of individualized and collective learning opportunities for students who, for their own reasons, choose not to come to one of our campuses.
- technological enhancement to traditional delivery: uses range from e-mail for faculty-student communication to multimedia lecture presentations to sophisticated computer simulations for advanced level courses.

Conceptually, an LRC provides the resources and supports required by students and College staff to ensure that a wider range of these learning opportunities will be available.

There are five major components within the recommended LRC model:

I. *Access Services:* The area of initial contact incorporating front end assessment, advising, registration and referral.

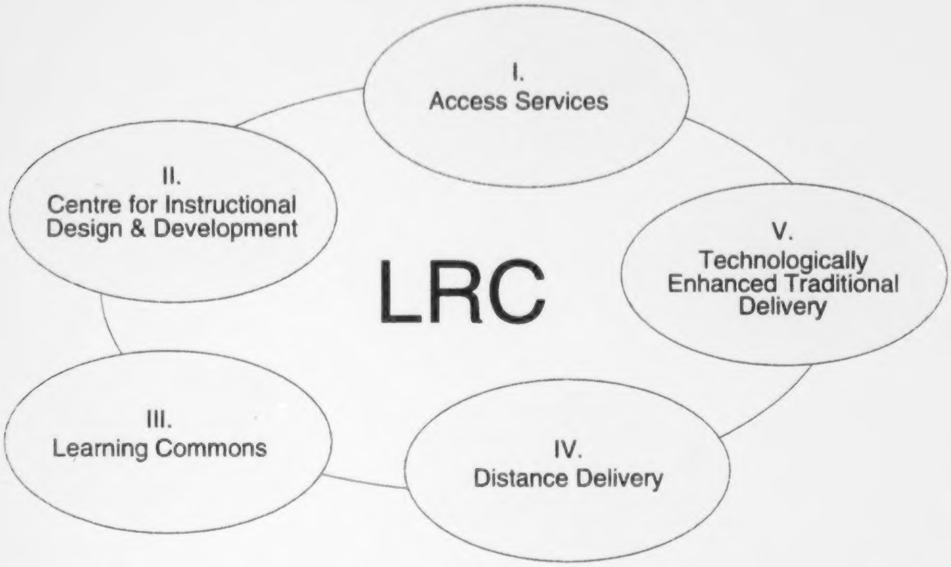
II. *Centre for Instructional Design & Development:* The area providing support and expertise for instructional design and development for adapting and/or creating curriculum.

III. *Learning Commons:* An open computing facility where learners work on a variety of courses and learning experiences, including self-paced, open-entry courses, open computing components of more traditionally delivered courses, remedial courseware, as well as less structured opportunities that are facilitated by improved access to information resources.

IV. *Distance Delivery:* The technical infrastructure and support services necessary to allow access to learners who are unable or unwilling to attend more traditionally delivered courses.

V. *Technological Enhancements to Traditional Delivery:* The expertise, equipment and support required to provide faculty teaching in more traditional modes the ability to enhance learning experiences in new ways.

The following graphic illustrates the major components within the LRCs. Full descriptions of each of these components are contained in this report.


I.
Access Services
II.
Centre for Instructional Design & Development
LRC
V.
Technologically Enhanced Traditional Delivery
III.
Learning Commons
IV.
Distance Delivery

This report describes LRCs at Fleming five years from now. While not all aspects of the LRCs will be fully implemented at all campuses, the model has been designed to be scalable and flexible. It is described in terms of the processes, functions and roles that must be in place to allow us to provide more flexible, accessible learning opportunities to our students.

Figure 1 Students at work in the Computing Commons at Arizona State University, Tempe.

KEY PRINCIPLES AND ASSUMPTIONS

The development of the model for the Learning Resource Centre has been based on several fundamental assumptions and beliefs about the role of students, faculty, support staff and administration, as well as key principles related to learning theory. The following principles and assumptions underlie all aspects of the LRC model.

- Providing flexible and accessible learning opportunities for students, staff and faculty is the primary function of the LRCs. Learners are at the centre of the learning process.
- There is an administrative commitment to the philosophy of increasing access and flexibility to learners. **The decision to incorporate alternate deliveries *may* be motivated by issues relating to cost reduction and savings, but *must* be justified on the basis of being able to meet the learners' needs and to provide choices** (Dunn & Knibb, 1995 p. 75).
- The role of faculty is multi-faceted: teacher, facilitator, mentor, motivator, interpreter and guide (Dunn & Knibb, 1995, p. 11).
- Fleming is a College of *Applied* Arts and Technology; there will always be components of learning that require the presence of students in an environment that allows them to apply and demonstrate their learning.
- Principles of equity, fairness and accommodation of the needs of diverse learners underlie the curriculum design and delivery of course offerings within the LRCs.
- LRC programming promotes the affective elements of adult learning including the importance of life experiences, self-concept and motivation and provides an environment for learners to be involved, challenged, self-directed, rewarded and safe (Manteuffel, 1982).
- Student interaction with faculty and staff is fundamental to the success of the LRCs. Alternate delivery does *not* mean learning without faculty involvement. Technology is used only to enhance learning opportunities.
- Strong and coordinated support systems including library services, technical support, assessment, tutoring and remediation, counselling, advising, etc., are a vital part of a learner's success in both traditional and alternate delivery modes.
- Teaching and learning supports for support staff and faculty are critical. These include support for curriculum design, instructional design, technical

initiatives, hardware and software, assessment and applications.

- Most curriculum components can be adapted for delivery in at least one alternate mode.
- Curriculum for delivery in any mode must be modularized into manageable "chunks" of learning, in order to respond flexibly to individual learning needs. All courses at the College will be re-designed to improve the ease of integrating CSAC standards, implementing PLA and adapting to alternate delivery.
- All curriculum identified for adaptation, modification, or creation for alternate delivery should be based on a curriculum design model and supported through the Centre for Instructional Design and Development (CIDD).
- Development of courses for alternate delivery will follow these priorities: purchase existing courseware and use "as is", buy courseware and adapt, develop with a partner, develop at Fleming.
- A responsive, current Student Information System that is accessible to all - learners, faculty and staff - is critical to the implementation of LRCs at Fleming.
- Responsive evaluation strategies that ensure the quality and effectiveness of all components of the LRCs will be established and implemented on a continuing basis.
- Information Technology Services (ITS) will be involved in the planning and have the resources to implement the infrastructure required to support LRCs at Fleming.

Besides these key assumptions and principles, the forthcoming implementation of LRCs at Fleming has raised central questions concerning

- the College's ability to ensure the continuing quality of our courses, diplomas and certificates, and
- issues around students' readiness and motivation to participate in courses delivered in non-traditional ways.

The evaluation processes implemented within the LRCs must ensure that these concerns are addressed consistently and continuously.

COMPONENTS OF THE LEARNING RESOURCE CENTRE

There are several major components within the LRC model:

I. *Access Services:* The area of initial contact incorporating front end assessment, advising, registration and referral.

II. *Centre for Instructional Design & Development:* The area providing support and expertise for instructional design and development for adapting and/or creating curriculum.

III. *Learning Commons:* An open computing facility where learners work on a variety of courses and learning experiences, including self-paced, open entry courses, open computing components of more traditionally delivered courses, remedial courseware, as well as less structured opportunities that are facilitated by improved access to information resources.

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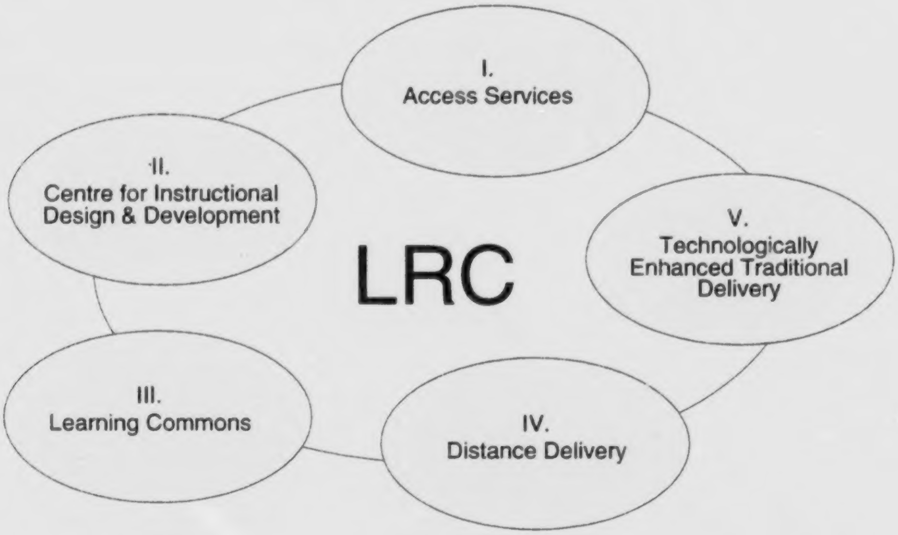
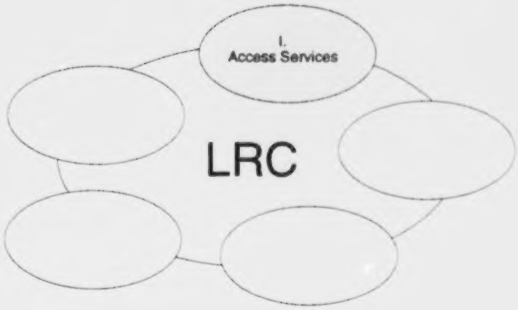
V. *Technological Enhancements to Traditional Delivery:* The expertise, equipment and support required to provide faculty teaching in more traditional modes the ability to enhance learning experiences in new ways.

Descriptions of each of these components are contained in the sections that follow.


I.
Access Services
II.
Centre for Instructional Design & Development
LRC
V.
Technologically Enhanced Traditional Delivery
III.
Learning Commons
IV.
Distance Delivery

I. ACCESS SERVICES



Initially, Access Services as described below will be implemented in the Learning Commons for students involved in open learning courses. The research done by the project team strongly supports the inclusion of access-type services, especially student advising and tracking, for students participating in courses delivered in an alternate way. Based on the evaluation of the first year, the scope and scale of Access Services could be increased as the number of courses delivered in alternate ways expands and the College moves to a full implementation of the LRCs.

Access Services refers to a collection of functions and services that provide an initial point of contact for students or potential students and the College. Ultimately, Access Services includes such functions and services as student registration, broad-based assessment and testing (e.g., CPT, PLA, special needs, remediation and tutoring, personal situation, learning styles, etc.) student advising, counselling services and student orientation to learning opportunities. The LRC model for the College ensures that the functions and services comprising Access Services are linked minimally from a process perspective and ideally through both processes and physical proximity.

Front end assessment, and in particular the links between front end assessment and other services/functions, is fundamental to the success of the Learning Resource Centres at Fleming. The shift to alternate forms of delivering education makes it even more important that learners are assessed from a variety of perspectives.

The importance of front end assessment is also well supported by the results of the LRC needs assessment conducted with Fleming staff in early September 1995. The results not only identified front end assessment as a critical element in achieving the goals of the Master Academic Framework but raised it as one of the six top priorities to be addressed in the 1996-1997 budget year.

The Testing and Assessment Task Force in its 1995 report entitled *Policy Guidelines for Testing and Assessment Services* outlined principles, procedures and recommendations which also strongly support the inclusion of these services within an LRC model.

Within the context of the LRCs at Fleming, Access Services includes several major components: student registration, an Assessment & Testing Centre and the coordination of delivery of materials to students studying at a distance.

The information that follows provides a framework for the inclusion of an Assessment & Testing Centre within the LRCs at Fleming. At this point in time, it does not address the student registration process. It describes the functions and services provided through an Assessment & Testing Centre, the fundamental principles and assumptions associated with the Centre, and the roles and staffing required at various stages of implementation.

The model of the Assessment & Testing Centre is scalable and does not preclude expansion to a community assessment centre as resources become available. However, the primary focus of this section is on a model to integrate and better serve our students and potential students rather than on the development of a centre to serve community assessment and testing needs. A detailed proposal for a community assessment and testing centre is documented in the report entitled *A Service of Excellence "Options" for the 5 County Area* (Kovacs, 1995).

Assumptions

Overall

- Access Services, including front end assessment are centrally coordinated but decentralized operationally. There will be one Access Service area at Sutherland Campus and one at Frost Campus.
- This model addresses *additional* functions and services over and above those currently in place for assessment and testing. It assumes that the internal procedures used in various assessment and testing areas within the College are clearly articulated and can be adopted or modified to fit under the Access Services umbrella.
- The College will review the proposal for student advising in light of the assumptions of the LRC Access Services.
- A basic College philosophy is that students who are under-prepared for post-secondary programs will be provided with the necessary learning activities and supports to prepare them for post secondary programs.
- The tone and atmosphere associated with front end assessment is critical. Given the nature of activities, the learning context must be perceived to be a safe one for students.
- Students learning at a distance are provided with a single point of contact for any interaction including registration in distance education courses, requesting course material, and delivery of assignments.
- Coordination of distance education will be centralized through a single location.

Assessment & Testing

- All students registering for programs at Fleming must complete some assessment and testing prior to the first day of classes.
- There will be a fee for all assessment and testing (fee to be determined)

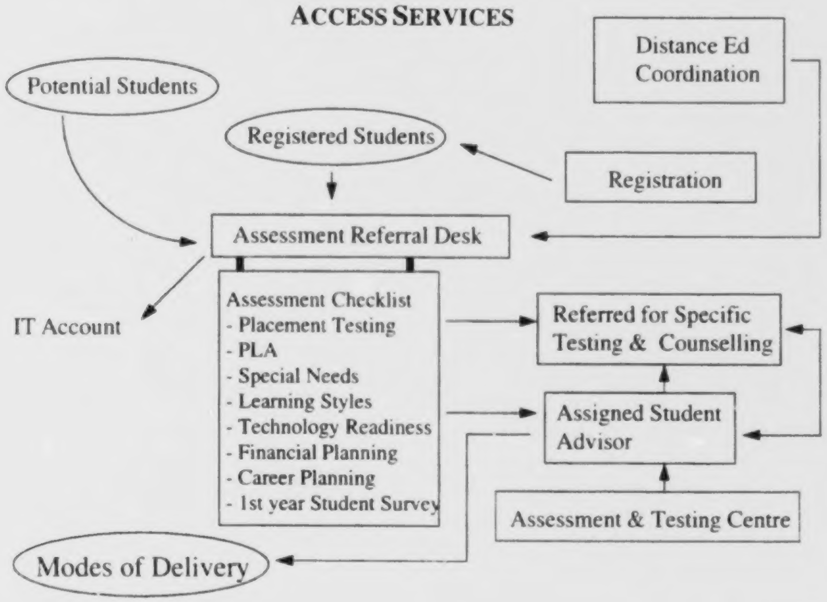
conducted for registered students. Additional fees may be charged to students not currently registered in a program at Fleming.

- Any student registered in a program who has not completed the necessary assessments prior to the first day of classes will be charged a late penalty.
- Students will be required to complete self assessments as part of the registration process and to bring their completed assessments with them.
- Information for clients not registering in post-secondary programs or courses at the time of assessment is kept in the student contact database.

Student Advising

- Any staff member at the College can participate as a student advisor. In addition, interested students may be included in the advising process as peer helpers.
- All staff and peer helpers participating in the student advising process must receive appropriate training.
- Students enrolled in programs leading to a diploma or certificate will be assigned a single student advisor for the duration of their studies at the College, although reassignment may occur for a variety of reasons. Students taking a single course for interest will not necessarily be assigned a student advisor.

Effective front end assessment requires well defined linkages and processes among a variety of functions in the College to ensure that appropriate student tracking and advising is made possible. The following flow chart illustrates the process a student would ideally follow with regard to Access Services when making contact with Fleming College.



Functions

Access Services is a function at both the Brealey and Frost campuses. Some roles and staffing are duplicated; however, overall coordination of Access Services is handled from one location only.

The purpose of Access Services is to

- provide an initial point of contact for on-campus students and all distance education students
- provide an assessment and testing referral function
- provide a referral to counselling services including booking appointments with counsellors
- ensure facilities to conduct assessments and tests, including special needs equipment, etc.
- provide central coordination for course placement testing (e.g., CPT)
- provide staff trained in specific testing and assessment procedures
- provide centralized coordination of student advising/counselling
- accept payment for assessments done on a fee-for-service basis
- distribute results of assessments as appropriate
- ensure process for setting up computer accounts is initiated
- ensure procedures and linkages are clearly articulated to facilitate student movement through front end processes

Assessments may be conducted via computer, through self-assessment, and/or through other means, and include such assessment activities as

- prior learning assessment
- centralized coordination of course placement testing (generic skills testing)
- assessment of special needs
- assessment of learning styles
- assessment of student readiness to adopt technology (including computer skills)
- financial planning and assessment
- career planning (e.g., Discover sessions)
- first year student survey (tracking student demographics)

(*Note: this list does not describe all the specific assessments/tests, but rather a sampling of general types of assessment and testing that could be addressed through the Centre*)

Access Services addresses several major components. These are the Referral Desk, Student Advising and Counselling, an Assessment & Testing Centre, and coordination of the delivery of alternate delivery material to students. The purpose and functions of each of these elements is described in detail below.

Referral Desk:

- Provides an initial point of contact for students including those who are directly entering a program (post-secondary, academic prep, etc.), potential students exploring their college educational options, and community members or employers interested in fee-for-service assessment and testing.

- Initiates the electronic student profile if one has not already been developed.

  This profile tracks a student's progress through the college system. As a student moves through the front end processes, all key checkpoints are updated on the electronic student profile. Throughout the process, staff with whom the student interacts are responsible for updating and recording the status of the student's progress (this may include dates tests were taken, or results of tests). The student also has the capability to access her or his student profile as necessary.

- Conducts an initial evaluation of the client to determine specific assessment needs.

  The concept of an *Assessment Checklist* enables the Referral Desk staff to identify the requirements of the student with regard to assessment and testing (refer to the role of the Assessment Referral Desk staff member for a description of the skills and knowledge required of this role). Although they are not responsible for in-depth assessment and testing, they are responsible for reviewing the Assessment Checklist to ensure that all options and checkpoints have been discussed and that the appropriate referrals and information are provided to students.

- Identifies the need for student advising (not all students may require student advising), assigns student advisor, and books initial appointment with student advisor.

- Provides information and referral for students requiring counselling services.

- Provides information and referral for students requiring special services from Health Services (pre-placement health requirements, special needs, etc.)

- Refers clients to information sessions relevant to assessment and testing procedures (e.g., if the Referral Desk staff has identified the student as a PLA candidate, they would refer the student to the PLA workshops and the specific PLA professionals)

- Initiates the process to activate computer accounts for students as appropriate and provides a user ID and temporary password. Students are informed that within 24 hours their personal computer accounts will be active.

- Follows up with community clients who requested information on upgrading, PLA, etc., to track plans to pursue post-secondary education.

- Forwards test results to the appropriate student advisors and inputs information into student contact database.

- Facilitates student progress through the front end processes.

Student Advising:

- The model for the Access Services and student advising is based on the model of the Student Advising Pilot Project (Windover, 1995) accepted in principle by AMT on September 27, 1995 and distributed to the College community on September 29, 1995.

- Students are assigned a single advisor for the duration of their education at Fleming and that advisor may be from any area of the College.

- Advisors may refer students to others (e.g., to specific faculty in the area of specialization) for issues related to academic advising.

- Student advisors are responsible for developing learning plans with students, for assisting in the interpretation of some test results, for discussing readiness to adopt alternate delivery courses, etc.

- Student advisors are responsible for updating the electronic student profile and/or for helping students to make updates to their own profile.

Assessment & Testing Centre:

- Is the location in which students write any necessary tests or assessments. It is available for:

    - students requiring specific front end assessments
    - centralized coordination of course placement tests (e.g., CPT)
    - students completing tests for individual open-entry courses
    - students taking make-up exams (for a fee)
    - special needs students.

- The Assessment & Testing Centre is staffed by a testing technician who invigilates all activity in the room and is able to provide general answers with regard to all assessment/test activities conducted in the centre.

- Special needs facilities for testing and assessment are incorporated into the Assessment Centre.

- The Assessment & Testing Centre includes computer facilities as well as desks for paper-based testing.

Roles

Assessment Referral Desk Staff
(2 full time positions - one at Sutherland; one at Frost)

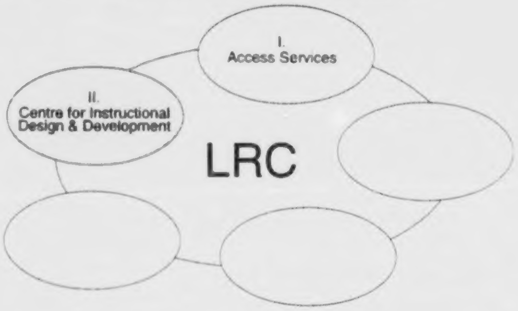
- is an assessment generalist knowledgeable about the testing and assessment procedures in the College. This person does not necessarily have the skills or knowledge to conduct or interpret test results (although she or he may possess such skills).
- provides the initial single point of contact for students and for the initiation of student information.
- answers enquiries from students and others about testing and assessment.
- initiates the tracking and monitoring of student progress while they are in the front end process.
- ensures appropriate follow up is conducted with students and staff
- coordinates the availability of student advisors by accessing the student advisor database.
- acts as liaison between Access Services and counsellors.
- provides necessary links with other front end service areas.

Note: This role may include additional peak period staffing.

Assessment & Testing Centre Technician
(2 full time positions - one at Sutherland; one at Frost)

- invigilates all assessment and testing conducted in the Assessment & Testing Room.
- maintains software programs and specialized equipment used for assessment and testing purposes.
- updates the electronic student profile as part of the student tracking process.
- provides students with orientation to assessment tools (e.g., CAAT).
- acts as liaison between Access Services and counsellors.
- provides necessary links with other front end service areas.

II. CENTRE FOR INSTRUCTIONAL DESIGN & DEVELOPMENT



The Centre for Instructional Design & Development (CIDD) provides the support and leadership needed by the College to implement curriculum changes required to meet the goal of having one third of our courses available in alternate modes by the year 2003 (Ashton, 1994). The Centre provides expertise and support for faculty in the development of modularized curriculum; adaptation of curriculum to alternate delivery modes; integration of program standards including generic skill outcomes, general education requirements and vocational outcomes; instructional design; and the appropriate application of instructional technology. In addition, while program review and renewal are not the primary responsibility of the CIDD, the centre is responsible for providing input to the processes and incorporating the results when working on curriculum renewal with areas of specialization.

The LRC needs assessment survey conducted in September identified the following functions and services amongst the top six required for implementation in the 1996-97 budget year:

- expertise and support for *delivery* of curriculum in alternate formats
- expertise and support for faculty *designing* traditional and alternate delivery curriculum
- expertise and support for the development of educational/course software

Assumptions

- There is one curriculum/instructional design model for the College, flexible and responsive to changing college needs.

- All acquisition, adaptation and/or development of curriculum materials is done by a team consisting of some or all of (depending on the degree of development required) the following individuals:
  - content expert (faculty provided by area of specialization)*
  - instructional designer*
  - instructional technology consultant (as needed)
  - software developer (contract as needed)
  - editor (contract or use other instructional designer)
  - content reviewers (contract 1 or 2, possibly external)
  - learners (formative evaluation of instructional materials)

*** A content expert and instructional designer must always be involved.**

- The priorities for acquisition of instructional materials are the following: purchase existing courseware and use as is; buy and adapt; develop with a partner (e.g. other colleges, textbook publishers, businesses); develop alone. Because of the costs involved in developing materials for alternate delivery (e.g., 100-400 hours of development per hour of computer-based instruction), the College will undertake very little development alone. One of the priorities for the CIDD will be establishing guidelines that can be used to assess the degree of fit between purchased curricula and existing curricula at Fleming.

- All courses selected for alternate delivery will be adapted using the instructional design model developed by the CIDD. This model will include a check of what technologies are or are not appropriate for delivery based on course learning outcomes. Selection of technology for alternate delivery will also take into account the literacy level required for the technology (e.g., computer conferencing requires good writing skills).

- Content faculty involved in adaptation and/or development of instructional materials are given time release (e.g., f/t faculty could be SWF'd for development 1 day/week and be expected to produce a course manual in one semester). A policy to achieve consistency for release will be developed.

- A College policy will be developed to address the issues of ownership of materials developed by the CIDD and faculty in areas of specialization.

Selecting Courses for Alternate Delivery

There are two fundamental criteria which must be met if a course is to be delivered in an alternate way:

1. Can the learning outcomes be achieved through alternate means?

   This requires a faculty member sitting down with an instructional designer, reviewing learning outcomes and the instructional strategies that are used in the current setting with a view to identifying alternate ways in which outcomes can be achieved.

2. Is there a market for the course? Some of the following questions should be considered:

   - Is there a high demand for this course from current students inside the college?
   - Could enrolment for this course be significantly increased through distance delivery or open learning?
   - Can we sell or trade the instructional materials?

- Is this course unique to Fleming (e.g., no one in Ontario, Canada, North America/the world has this programming)?

For other criteria, please see "Unit 7 - Selection of Courses for Conversion" in *A Guide to Alternate Delivery* (Dunn & Knibb, 1995, p. 23).

If these criteria are met, then some questions around feasibility should be asked, including

- Do we have the current technology to deliver the course and the required supports in place?
- Can we purchase off-the-shelf courseware that can help learners meet most of the learning outcomes?
- Is this a course that might work in partnership with others in an area of specialization?
- Are there innovative alternatives for face-to-face components as needed?

Functions

The Centre for Instructional Design & Development carries out the following functions:

- in partnership with faculty, provides leadership for the continuous improvement of curriculum
- provides consistent criteria and support for curriculum review and curriculum validation on a college-wide basis
- ensures that during the instructional design process, the principles of education equity are incorporated in the curriculum
- provides program development assistance
- develops the criteria used to select courses for adaptation to alternate delivery modes and, in conjunction with faculty from areas of specialization, selects courses
- develops the criteria for deciding whether to buy off-the-shelf courseware, buy and adapt materials, or build from scratch (see preliminary criteria above)
- negotiates and implements agreements relating to intellectual property rights, ownership, etc.
- researches and selects the curriculum development and adaptation model in consultation with the team
- works closely with staff and faculty to identify training/education issues relating to instruction in any mode
- develops and maintains a comprehensive curriculum "bank"

Roles

CIDD Team Leader
(1 full time position)

- provides curriculum coordination within the College and between the College and the rest of the Ontario system
- provides liaison for College to provincial initiatives relating to curriculum development for alternate delivery (e.g., open learning network, distance education partnerships, etc.)
- has a broad knowledge of all College curriculum
- understands the strategic implications of the College's programming
- provides liaison with other business units in the College to help market curriculum to the wider community (provides a single point of contact for outside liaison and partnerships relating to curriculum design)
- facilitates customizing of curriculum based on the needs of industry clients
- has a knowledge of curriculum throughout the CAAT system
- responsible for CIDD budgeting and planning

Faculty Involved with CIDD
(assigned as appropriate)

Faculty will be assigned by their area of specialization to work with the CIDD to adapt and/or develop curriculum. Specifically, they will work with an instructional designer to

- validate existing curriculum
- identify appropriate alternate delivery options
- acquire or adapt or write/develop instructional materials

In addition, they will evaluate the experience of working with CIDD staff, processes and models.

Instructional Technology Implementor
(1 full time position split between campuses)

The primary purpose of this position is to facilitate the diffusion of instructional technology within the College. This individual

- identifies and recommends appropriate applications of instructional technology within the College
- assists areas of specialization to develop implementation plans for using instructional technology
- works closely with staff development to define and provide PD relating to

instructional technology with an emphasis on the implications of how instructional technology affects the learning process

- ensures ongoing support for faculty using instructional technology *after* training
- provides liaison between the LRCs and ITS on issues related to instructional technology
- establishes evaluation criteria for instructional software
- researches software and hardware for alternate delivery and for the technological enhancement of traditional delivery
- consults with members of the College community who are implementing or wish to implement instructional technology

Instructional Designers
(2 full time positions - one at Sutherland, one at Frost)

The principle function of the instructional designer is to act as an advocate for students; that is, to ensure that course/module prerequisites are clearly identified, that learning outcomes are appropriate to the subject, that evaluation criteria are well-defined, that the course content and learning process are at the appropriate level, and that course materials are set up from a learner/learning perspective. The people filling the roles must have excellent people/negotiation skills, and be self-directed, lifelong learners as well as have a strong background in instructional design. The instructional designers

- work with faculty from areas of specialization to adapt and/or develop curriculum
- provide an initial inventory of the alternate delivery curriculum that is already available at the College
- research available courseware and assist content experts in reviewing it to determine the degree of compatibility with existing course learning outcomes
- mentor faculty through the development and design process
- in conjunction with content experts, are responsible for the adaptation of existing curriculum to alternate delivery modes
- set up a college-wide curriculum development and design process and ensure that it is applied consistently
- have an overall knowledge of delivery techniques and strategies and specific knowledge of the delivery model(s) in use at Fleming
- establish a process for determining when materials in use for open or distance learning require updating
- regularly evaluate all curriculum developed for alternate delivery
- provide curriculum project coordination: track schedules, set time lines, etc.

Curriculum Standards Implementor
(1 full time position)

- leads the continuing college-wide implementation of CSAC generic skills and general education requirements
- provides liaison with CSAC and other accreditation bodies
- works with areas of specialization on curriculum development, review and revision to ensure that CSAC and other appropriate standards are incorporated
- assists in the move to modularized curriculum
- ensures that a consistent approach to course outlines is used and that CSAC standards are implemented
- provides liaison with the program review and renewal process (FDR, etc.)

Media Specialist
(2 part time positions - one at Frost, one at Sutherland)

- support for faculty who are trying to technologically enhance traditional delivery
- production of materials such as videos, multimedia, print-based, desktop publishing, etc.

Subcontract as necessary:

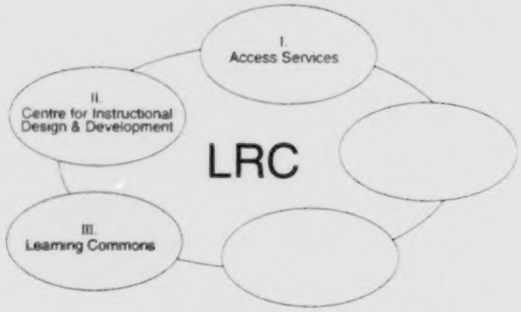
- software developers
- editors
- content reviewers
- additional instructional designers

Facilities

There is a physical CIDD presence at both Frost and Brealey, adjacent to the Learning Commons in each case. The space includes

- offices for the instructional designers (one per campus)
- permanent offices at one location for other departmental members, with swing offices at the other
- an instructional technology practice place (one per campus) for faculty delivering via alternate modes (use actual audioconferencing and audiographics classrooms as appropriate, provide multimedia and video development workstations)

III. THE LEARNING COMMONS



The Learning Commons is a key element of the LRCs as it provides an accessible, on-campus site for a wide range of learning opportunities. The Learning Commons is a scalable, multi-purpose facility which brings together library resources and services, open computing facilities, space for individual and collaborative learning activities, the technological infrastructure for the delivery of distance education, and facilities and support to allow faculty to enhance their traditional teaching activities using technology. It also supports remediation and tutoring functions.

Assumptions

- All staff in the Learning Commons (content experts, curriculum generalists, library technicians, computer technicians etc.) are responsible for helping students find answers to their questions, regardless of the nature of the question or the content to which it relates.
- Content experts are assigned (by their area of specialization) for a specific number of hours/week to support open computing activities as appropriate.
- More than one content expert may be present in the Learning Commons at one time.
- ITS has scaled up the College's network resources to support planned activities in areas such as multimedia, desktop videoconferencing, CD-ROM access, etc.
- Remote access to Learning Commons computer-based resources will be provided either via Internet access or dial-in.
- The Learning Commons will provide space for non computer-based tutorials and Special Needs learners.
- Computer facilities required for specific purposes (e.g., CAD, GIS) are reserved for those courses that cannot be integrated into the Learning Commons.

Scenario

Students who have been identified as experiencing difficulty in researching, organizing and writing essays and reports use the LRCs in order to work through a CD-ROM and support module on writing skills. One-on-one support from faculty and library staff is available as well as peer tutoring. Learners may enter the programme as soon as they have identified their need and may take up to one year to complete the course work (Dunn & Knibb, 1995, p. 8).

Figure 2 High Tech Centre 1 at Glendale Community College in Arizona.

Functions

Students come to the Learning Commons to engage in a variety of learning activities:

- self-paced, open-entry credit courses, many of them computer-based
- self-paced modules for upgrading basic skills
- independent components of classroom-based courses
- computing components of classroom-based courses
- non-credit learning modules on topics such as job search skills, health promotion activities, time management, etc.
- collaborative learning activities
- independent work required to complete a learning contract (ILO)
- less structured opportunities that are facilitated by access to information resources

The Learning Commons also provides such academic support services as

- individual tutoring,
- facilitating the formation of study groups,
- instructional support for individuals who have been identified by Access Services as requiring specialized assistance or those who have self-identified (e.g., Special Needs, ESL).

The services presently provided by the Educational Resource Centres are integrated into the Learning Commons. These include access to the following information resources:

- circulating books and reference holdings
- computerized library holdings
- CD-ROM resources including databases and full-text articles
- help in accessing on-line resources
- general, academic and business periodicals
- interlibrary loan
- coaching in the use of library software and in information retrieval
- orientation to the information resources available
- the Internet and World Wide Web
- film and video library

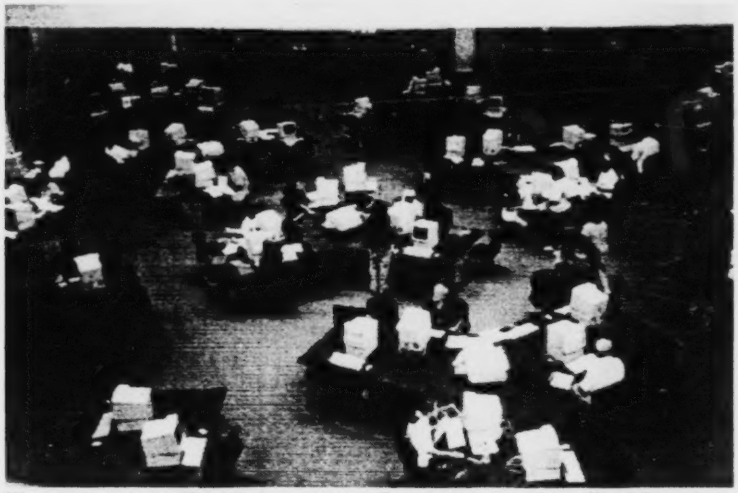


Figure 3 The Information Commons at Estrella Mountain Community College, Arizona.

Roles

The Learning Commons provides Fleming with a unique opportunity to have College members build on current relationships and work together in new ways. Faculty, library and technical staff and student peer tutors work closely to provide support for learners. Staff of the Learning Commons are cross-trained and form a Learning Commons Instructional Team:

Library Staff

Library staff will continue with their present roles, and provide expanded support in the following ways:

- assist staff and students in finding and retrieving information from a variety of sources, including the Internet
- provide training, both formal and informal, on accessing information resources

Faculty Content Experts

Faculty involved with courses which have open computing components:

- are scheduled in Learning Commons as part of workload to provide content-specific support to their learners, but
- are also available to help answer other student questions arising in the Learning Commons
- have hours to be determined by courses offered and number of learners registering

> ***Scenario***
>
> The Centre for Instructional Design and Development has located some computer-based learning materials which closely match the learning outcomes for a particular course. The outcomes require that there be classroom based interaction; therefore, students meet as a group with the teacher for one hour a week. Prior to the next class, they are expected to spend time in the Learning Commons to complete the on-line assignments, quizzes and tests described in the course manual.
>
> In the Learning Commons, support for these students is provided by the Learning Commons instructional team. In addition, the professor is scheduled in the Commons for several hours each week to provide content expertise and keeps in close touch with the staff there to flag any problems.

Peer Tutors

- help learners with difficulties and refer to other staff as required
- work with learners through content of materials

Faculty Curriculum Generalists

Faculty with primary responsibility for open-entry courses will

- answer learners' questions regarding course content for open-entry courses; refer student questions to content experts as required
- provide instructional assistance to students who have problems comprehending written course material in open-entry courses
- maintain inventory of test materials for open-entry courses
- maintain current answer keys for both in-lab exercises and unit tests
- mark assignments and tests, as appropriate
- assist learners with other Learning Commons activities as required

Learning Commons Computer Technician
(2 full time positions - 1 at Frost; 1 at Brealey)

- provides technical assistance to learners who have problems understanding software packages
- diagnoses and corrects minor hardware problems including paper jams and replacement of printer accessories such as toner kits and ribbons
- works with Information Technology Services concerning account issues - space, volume, lockout, etc.
- identifies if problems are software or hardware based
- reports hardware failures to computer repairs
- assists learners with orientation to the processes and technology of the Learning Commons
- assists learners with orientation to systems (logging on, etc.)
- assists with special services as needed to Special Needs learners
- maintains inventory of software manuals in the Learning Commons
- takes some responsibility for equipment set up for distance delivery
- provides on-site technical support for distance delivery

Scenario

It is the second week of November. Victor, who works for a company in Peterborough, has applied for the position of executive assistant to the president in the head office in Ottawa. If he makes the short list, his interview will be in mid-December. He has most of the required qualifications and experience, but the head office uses Windows-based software and he is a DOS user. He needs some familiarization with Windows immediately.

Victor comes to Fleming and registers in the open-entry Introduction to Windows course in the Learning Commons. He intends to work evenings and weekends to complete the course in time for the interview.

Learning Commons Coordinator
(2 full time positions - 1 at Frost; 1 at Brealey)

- "meets and greets"
- monitors usage of Learning Commons computing facilities to ensure reasonable access for required activities
- prepares staffing schedules for Learning Commons area (technicians, generalists, content teachers, tutors)
- may supervise and provide input to the performance evaluation of peer tutors and staff
- develops and conducts training sessions for Learning Commons instructional team

- tracks students and progress
- assists learners' inquiries on course progress
- oversees entry of student records information into SIS
- receives learners' assignments for marking and distribution
- makes reservations for Special Needs learners or special tutorial groups

Other functions which are the responsibility of the staff/team of the Learning Commons are to

- develop processes and practices required to operate the Learning Commons efficiently and effectively
- update student records on SIS as needed
- provide academic support to students working independently on open-entry courses
- provide technical support to all students working in the Learning Commons
- develop and deliver at regularly scheduled times, an orientation to the Learning Commons

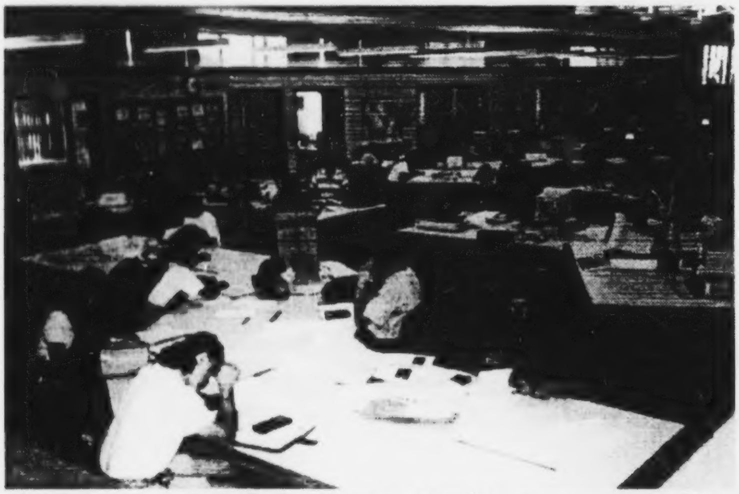


Figure 4 High Tech Centre 2, Glendale Community College Arizona. Table in foreground is the math tutoring station.

Facilities

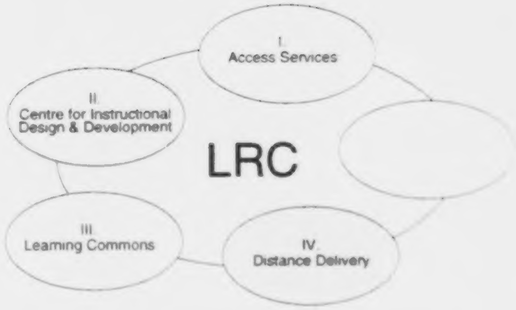
Both Frost and Brealey locations will have designated Learning Commons spaces. These spaces will contain the following components:

- open computing area comprised of all networked computers having access to curriculum and support software, including library resources
- integrated automated library system
- laser printers

- "Y"-shaped work surfaces
- docking stations for learners with own laptop
- storage areas
- work areas for library staff, tutors, technicians, and faculty
- reception area
- testing area (glassed in area for test taking)
- space for group study and group projects
- rooms containing equipment required for interactive distance delivery
- large room for "conferences/lectures" for satellite downloading
- practice lab for all Fleming members
- small lab in Commons for computer/software training at designated times

A more detailed description of the ideal facility is contained in the section *The Vision for the Future.*

IV. DISTANCE DELIVERY



The Learning Commons incorporates the technological infrastructure required to support the following distance delivery options:

- traditional primarily print-based "courses in a box"
- audioconferencing
- audiographics
- videoconferencing
- computer conferencing
- World Wide Web and other Internet tools
- satellite downlink

The delivery of courses will depend on members of several areas working together; for example, Registration and Access Services, faculty, CIDD, distance education coordinator, materials printing and distribution, marketing.

Assumptions

- More than one distance delivery mode will be supported at Fleming.
- Regardless of the delivery mode, interaction of students with faculty (via telephone, fax, e-mail, etc.) is a critical component of distance courses.
- The selection of a particular distance delivery mode depends on its suitability for the achievement of the learning outcomes.
- The development of distance courses is supported through the CIDD.
- Distance courses are supported through the College infrastructure (Access Services, Distance Delivery coordinator, marketing).
- The instructional technology consultant/implementor (CIDD) is available to provide expertise in how technology can best be used to enhance learning.

Functions

The following distance delivery modes will be supported by the LRCs (Please refer to the chart on page 5 for an overview of delivery modes).

Print based materials are the heart of distance learning courses making them free from time and space constraints. Depending on the amount of interaction among learners required or desired in a course, technological components can be added; for example, videos, audio tapes, video conferencing, e-mail. Addition of these make courses more space and time bound to varying degrees.

"Course in a Box":

Print material is the basis for course delivery although course may include video and audio tapes and sample kits. Print materials give the learners freedom from time and space bound learning. Learners do, however, require strong motivation and good reading skills to access material independently. (Off Campus: Learner Defined Site)

Scenario

Art has registered in the Marine Mechanics program. During the day he is home looking after his four year old son. He works on the theoretical components using a print-based distance education course. Three evenings a week he comes to the college to use the multimedia stations where he interacts with video, CD-ROM materials and computer assisted lab simulations for the practical portions of the course. Here he also e-mails updates of his progress to his professor. He will meet with his professor in a lab situation on three designated evenings in the semester.

Audioconferencing:

This technology uses the telephone to connect learners at different locations by voice only. Audioconferencing allows for lectures, small group discussions, question and answer sessions and panel discussions. Teachers should consider all elements of this technology for interaction and not use it for lecturing alone. (Off campus: Learner Defined Site or Remote Access Site)

Audiographics conferencing:

Audiographics adds the exchange of text and graphics to voice communication. Audiographic conferencing is useful for guiding learners through material that contains charts, diagrams and illustrations (Watkins & Goulding, 1993, p.82). (Off campus: Learner Defined Site [software required] or Remote Access Site)

Videoconferencing:

Two way videoconferencing enables learners to see and speak with each other and is ideal for courses requiring demonstration and assessment of psychomotor skills. Ideally, videoconferencing incorporates multimedia presentation and perhaps works in conjunction with computer mediated instruction. Fleming should work with community partners in order to be able to offer this technology which is rapidly becoming a key delivery mode among our competitors. (Off Campus: Learner Defined Site)

Scenario

Ahmed is a third year electronics student living in Lindsay. Because of poor enrolment in a course he wants, the on-site course in Peterborough has been cancelled. However, there are a total of twenty students in Fleming's area who want this course, so the College has decided to offer it through audiographics conferencing.

Before a typical class, Ahmed enters the audiographics room at Frost and connects with the teacher (who is at Brealey) and students in Cobourg, Peterborough and Haliburton. The group is joined by a specialist from Miltronics in Peterborough who answers specific questions on the lesson. Schematic diagrams are provided on diskette to all sites ahead of time, and as the specialist discusses a particular circuit, he is able to display it at all locations simultaneously. As students ask questions, they are able to indicate which portion of the circuit they are talking about by writing on the audiographics tablet.

At the end of the class, the teacher splits the students into two project groups and asks students to stay on-line to discuss assigned questions. The teacher leaves, the specialist disconnects and the students continue with the conference. Although the students cannot see their fellow classmates at other sites, the course has provided them with many opportunities to interact previously, and so they know each other very well at this point.

Electronic Mail and Computer Conferencing:

These technologies are available when computers communicate through phone lines and networks. Connection usually takes place through a central host machine which organizes and distributes the messages. Users of the system call into the host machine or network with their computer and a modem to receive and respond to personal mail messages and to participate in group discussion. This communication is often referred to as asynchronous computer mediated communication (CMC) (Watkins & Goulding, 1993, p.83). (Individual or collective: Off campus/On Campus: Learner Defined Site or Remote Access Site)

Web-based Courses:

The World Wide Web can be used to provide course materials in an electronic format, supplemented by e-mail or computer conferencing. (Individual or collective: Off campus/ On Campus: Learner Defined Site [software required] or Remote Access Site)

> *Scenario*
>
> Students may work with a learning package and carry on a discussion from their homes by computer conferencing. This configuration is becoming more popular because it provides for interaction among members of the class but since it is asynchronous, each student can join the discussion at a time convenient to him or her (Watkins & Goulding, 1993, p. 73).

Satellite Downlinks:

Facilities and equipment for receiving satellite downlinks will continue to be available for use in specialized course delivery (Off Campus/ On Campus: remote Access Sites).

Other Possibilities:

Broadcast television and cable TV are being used to deliver courses in many institutions. This "Telelearning" is a technology that Fleming will investigate as a possible delivery mode.

Voice mail can be used for tutoring and support. Some learners even submit oral assignments this way.

Fax is being used for transmitting course material, assignments and feedback.

> *Scenario*
>
> Maria is designing her Art History course to be delivered in an alternate way. The course requires that students view photographs of several art works followed by a discussion of the artist. Using the Internet from home, Maria sends a request for digitized photographs of the paintings she needs to the Art History discussion list. By the end of the week, she has responses from teachers in seven different countries. Maria makes a databank for students to access during the course. After meeting with the instructional designer in the CIDD she receives advice on the best way to deliver the course and decides to use audiographics. Maria receives assistance from the instructional designer, the media specialist and the curriculum standards consultant in redesigning the course, preparing the materials and presentation strategies required to use the delivery system. (Advanced Education & Career Development, 1995)

Scenario

A group of adult learners over a widely scattered area pick up TVO broadcasts and use their course resources to complete a college credit course in Sociology. The college registers, supports and assesses the students' work (Dunn & Knibb, 1995, p. 9).

Roles

Distance Delivery Coordinator:
(1 full time position at either Sutherland or Frost)

- ensures single point of contact for Distance Ed students
- is responsible for copyright
- handles materials distribution: liaison with shipping and receiving (distance ed) and bookstore (on campus)
- may be responsible for some production of materials
- arranges orientation, exams and labs for distance students
- acts as liaison with registration: facilitates the process of front end assessment, advising and registration for distance students; determines who has registered and paid and needs materials
- refers distance students to course instructor as necessary

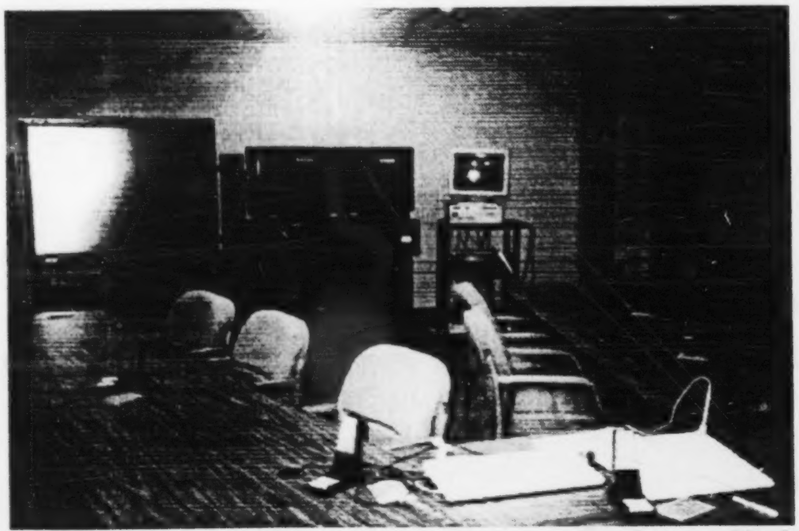


Figure 5 Videoconferencing classroom at the Contact North coordinating office in Sudbury.

At locations where distance delivery is supported by a Learning Commons, technical support for equipment set-up, etc. will be provided by the Learning Commons computer technician. At other sites, a designated staff member will be available during classes to either provide some elementary technical support or to contact the appropriate support person by telephone for assistance.

Faculty along with the areas of specialization and the CIDD will be responsible for identifying courses that are appropriate for distance delivery. Faculty with the CIDD will develop the course for selected delivery mode.

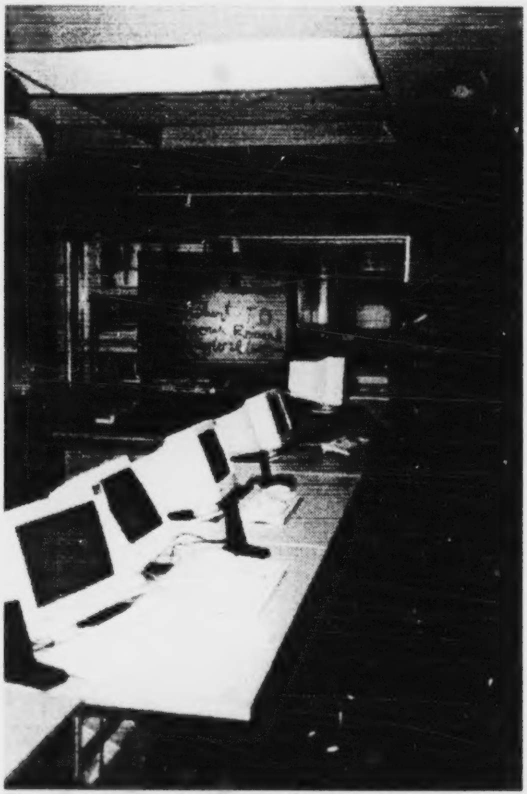
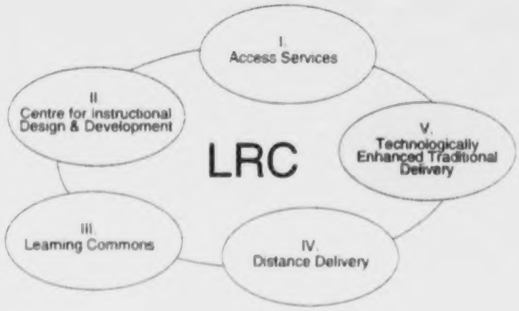


Figure 6 Audiographics classroom at Collège des Grands Lacs. Large screen is a SmartBoard, which can be written on by all participants and used to transmit graphics.

V. TECHNOLOGICAL ENHANCEMENT TO TRADITIONAL DELIVERY

Through collaboration of the CIDD, faculty, ITS and administration, Fleming will continue to facilitate the technological enhancement of traditional deliveries. Assistance to faculty, support staff and students in the use of technology will be provided.


I.
Access Services
II
Centre for Instructional Design & Development
LRC
V.
Technologically Enhanced Traditional Delivery
III
Learning Commons
IV.
Distance Delivery

Functions

The following are technologies that can be used to enhance delivery of material in a traditional classroom mode at the College. As technologies change and as program offerings change, so too will the technology requirements for classrooms. The focus will be on *appropriate* technologies for course delivery. These might include

- sophisticated computer projection and/or multimedia presentations for lectures
- document camera projection systems (e.g., Elmo camera)
- classrooms with networked jacks for multimedia presentations/Smart Walls
- docking stations for learners' laptops
- satellite downlink/uplink facilities at major sites
- access to Integrated Switched Digital Network (ISDN)/Integrated Community Network(ICN)/Global Networks

"Traditional" technologies (e.g., overhead projectors, videotape players and white boards) will be updated and maintained.

Roles

Staff of the CIDD will be available to assist faculty develop new activities to help learners achieve learning outcomes. In particular, the Instructional Technology consultant will work with teachers to investigate alternative technologies for courses and will provide expertise in how technology can best be used to enhance learning. The media specialist in the CIDD will be available for support in the production of materials such as multimedia presentations, videos, etc.

Practice places will be available for teachers to become familiar with new delivery technologies and to use them in classroom situations.

IMPLEMENTATION PHASES

Because of the demand for the services that such a centre can offer, implementation of the Centre for Instructional Design and Delivery is the first priority. LRC leadership and five of the staff positions described in the CIDD section (team leader, 2 instructional designers, instructional technology consultant, curriculum standards consultant) must be in place as soon as possible. In addition, a CIDD Advisory Committee should be established. The next priority, some of which must be done concurrently, is the establishment of the Learning Commons at Brealey and Frost. This includes space and infrastructure changes, and the orientation and retraining (if necessary) of existing staff. LRC components will be scaled up as LRC-related activities increase. For example, as distance education activity grows, staffing can be increased as required.

To show the phase-in of the five LRC components, we propose the following pilot projects are proposed.

Pilot Project #1: College-wide "Tech Ticket" Course for Students

Students are entering college programs with a wide variety of computer experience and skills. Presently, most students are required to take a semester-long computer fundamentals course which may include outcomes they have already achieved.

The objective of this pilot project is to design and deliver an introductory computer course to students through an open-entry, self-paced course. Students will be able to write a pretest to determine which modules of the course they need to take. They will then work on the prescribed modules at their own pace in the Learning Commons.

As a starting point in the design of this course, faculty with the CIDD staff will review the learning outcomes of all existing computer courses in order to identify the core competencies required. A detailed description of the pilot is included in Table 1.

Pilot Project #2: General Education Elective via Distance Delivery

Provincial requirements for general education state that students must take one general education course per semester of study. Use of distance delivery technologies can ensure that students at all campuses have the widest possible range of choices to fulfil the general education requirement.

This project centres on the adaptation of an existing general education course for delivery via some form of interactive technology (e.g., audiographics, computer conferencing, etc.). The initial steps include selection of a course based on the appropriateness of achieving the learning outcomes using technology of this type. A detailed description is included in Table 2.

Ongoing Project: Technological Enhancement of Traditional Delivery

Since technological enhancement of traditional delivery is already occurring, a pilot project has not been identified. However since the role of the LRCs includes supporting and facilitating the increased use of appropriate technologies to support teaching and learning, the activities and timelines described in Table 3 have been identified as being important.

The tables detailing the projects describe concurrent implementation activity within all components of the LRCs. In addition to their roles in the pilot projects, the CIDD will undertake the following activities:

Year 1

- assist areas of specialization in converting components of traditional courses to self-paced computer-assisted learning (CAL) modules
- research and develop curriculum bank (both internal and external)
- further articulate the curriculum design models resulting from the pilot projects
- research and recommend policies relating to intellectual property rights, ownership of instructional materials, revenue sharing of partnership development projects
- identify and actively pursue curriculum partnerships with other commmunity colleges

Year 2

- provide ongoing curriculum design support for traditionally delivered courses
- continue to expand course offerings via distance delivery

Table 1 Pilot Project #1 - College-wide "Tech ticket" course for students

	Access Services	LRC Leadership	Curriculum	Delivery
January - April 1996	•Access Services established •design online learning plan •develop tracking system	•plan pilot •identify & assign faculty from key areas •funding for faculty release included in budgets of appropriate areas of specialization •establish links to -SIS -timetabling -peer tutoring -advising •establish process for evaluation and reporting of pilot •develop communication strategy for project plan	•curriculum design and validation process initiated (CIDD and appropriate faculty) •review learning outcomes of all existing computer courses •identify core competencies across College •identify new outcomes (CSAC generic skills?) •finalize learning outcomes for the new course with faculty •design challenge test for all outcomes •develop summative evaluation for each component (tracking, etc.) •develop orientation to method of learning (critical to all alternate delivery curriculum) •finalize CAL s/w evaluation process •evaluate other delivery options •research and select software	•set up Learning Commons (ITS, plant, ERC, L.C. staff) -multiple platforms? -develop renovation plans for Brealey and Frost libraries -plan network expansion -identify redundant computing equipment and furniture

April - June 1996			•beta-test software •identify needed adaptations •purchase or develop supplementary course materials	•renovate libraries (Brealey, Frost) -move stacks -expand space if necessary -improve acoustics -purchase tables & chairs -re-allocate redundant equipment for general purpose computing -implement network cabling -power -purchase & install laser printers -install computers -install course software on network
June - September 1996	•develop self-assessment for student readiness to be included with info packets sent to students who have confirmed •assess and advise students re: options (ongoing)		•develop & publicize course component challenge process •produce course materials	•Learning Commons grand opening •develop orientation to facility •establish access/scheduling/hours of operation (priority for some students) •assign faculty to commons for fall semester •hire and train peer tutors •staff development re: LC roles, orientation, etc.

September - December 1996	•assess and advise students re: options (ongoing)			•re-assign (re-direct) ITS support to Learning Commons •run course: estimated 80% take self-paced LC version, 20% take it via traditional delivery
December 1996			•continue to evaluate pilot	
January - May 1997				•run course again
May 1997			•complete evaluation of pilot project	

Table 2 Pilot Project #2 - Interactive/collective distance delivery pilot project (internal): general education elective to be offered at Brealey and Frost (possibly also at Haliburton and Lakeshore)

	Access services (counsellors, student advisors)	**LRC Leadership**	**Curriculum**	**Delivery**
January - April 1996		•establish preliminary criteria for course (e.g identify types of learning outcomes suitable for interactive distance ed) •communicate project idea to areas of specialization •investigate partnership opportunities •organize equipment/software demos (e.g., Smart technologies, First Class BBS)		•implications for renovation plans?
April - June 1996	•develop self-assessment for student readiness to be included with info packets •areas of specialization communicate/promote option to students via student advisors	•establish process for evaluation and reporting of pilot •timetabling implications addressed	•identify 2-3 courses for consideration •review course learning outcomes for suitability for interactive distance delivery •select course •select delivery mode •establish maximum enrolment for each location	•establish space for interactive distance delivery (connected to Brealey and Frost Learning Commons. Space to be determined at Haliburton and Lakeshore)

June - September 1996	•areas of specialization continue to communicate/promote option to students via student advisors		•modify/add learning activities appropriate to learning outcomes and selected technology •develop orientation to method of learning (critical for all alternate delivery curriculum) •produce course materials (print, audiographics, etc.)	•lease & install equipment •train faculty on use of delivery technology
September - December 1996				•run course (delivered through area of specialization) •first course activity: instructor trains students on use of equipment
December 1996			•evaluate pilot project	
January 1997		•if pilot is successful, expand delivery to other markets	•investigate other course options	•repeat course?

Table 3 Ongoing Project - Technological enhancement of traditional delivery

	Access Services	LRC Leadership	Curriculum	Delivery
January - April 1996		•establish (with areas of specialization) instructional technology advisory and priority setting team (must have direct link to ITS)	•identify and showcase "best practices" internally and externally •set up tech enhancement discussion group •establish on-line resources relating to technological enhancement (ongoing)	
April - June 1996			•consult with areas of specialization and decide on presentation and multimedia development software that will be adopted/supported college-wide	•establish faculty/staff "practice place" off Brealey and Frost Learning Commons
June - September 1996			•purchase multimedia & presentation software	•install equipment and s/w in "practice place"
September - December 1996			•purchase/adapt/develop workshops and learning packages	

IMPLEMENTATION COMPONENTS

DATE	CIDD	ACCESS	L'NG COMMONS	DISTANCE DEL.	ENHANCED CLASS
Jan. 96	•5 staff positions in place (team leader, 2 instructional designers, instructional technology consultant, curriculum standards consultant) •Advisory Committee established •establish preliminary criteria for course, communicate to areas of specialization •assist areas of specialization in choosing ready made materials or computer courses or help with converting components of traditional courses to self-paced modules •research curriculum bank further articulate curriculum design models (pilot projects) •research and recommend policies relating to intellectual property rights, ownership of materials, revenue sharing of partnership development projects •identify and actively pursue curriculum partnerships with other colleges •specific responsibilities in Pilots #1,2,3	•define roles/ (leadership?) responsibilities •staff for referral desk in place for non OCAS students •develop electronic student profile, tracking system, on-line learning plan •develop evaluation tools for Access services •develop student advising process •develop training component for advising •map LINKS: PLA, Counselling, Testing, Special Needs •Testing and Assessment: CPT and Math testing in place for streaming/remediation •develop student entry self assessments: computer, learning styles, motivation •investigate Community testing centre •task force (working) and Advisory Committee for Testing and Assessment	•discussions with ERC/PLT(C) staff re: space allocations for LC •renovations, multiple platforms for Brealey/Frost •plan network expansion •identify redundant computing equipment and furniture. •define roles /responsibilities •designate new staff (Learning Commons Coordinator, Curriculum generalists, computer technicians •define role of peer tutors •develop training for peer tutors •develop evaluation tool for Learning commons effectiveness •team to develop LINKS for effective operation (PLT, Special Needs, Con Ed. SIS) •team to develop processes for effective operations (testing, independent study, marking, roles etc.)	•distance education coordinator in place (April) •establish DE distribution process • work with CIDD to establish which courses will be offered and promoted •work with marketing to determine market requirements and to respond with appropriate programming •establish processes for registration, examinations, followup, production and distribution •work with ITS and technical staff to determine technical needs of Distance courses. •work with CIDD to train faculty for deliveries •work/link with faculty re: courses offered •work with faculty to design orientation for learners to use technologies	•inventory of current teaching technologies. •assess state of those technologies •investigate additions, innovations that are applicable and appropriate to college delivery (e.g.,large lectures, using multimedia, etc.) •meet with teaching teams to assess needs and concerns •establish a college technology advisory committee made up of all segments of the College for input and decision making re: technology

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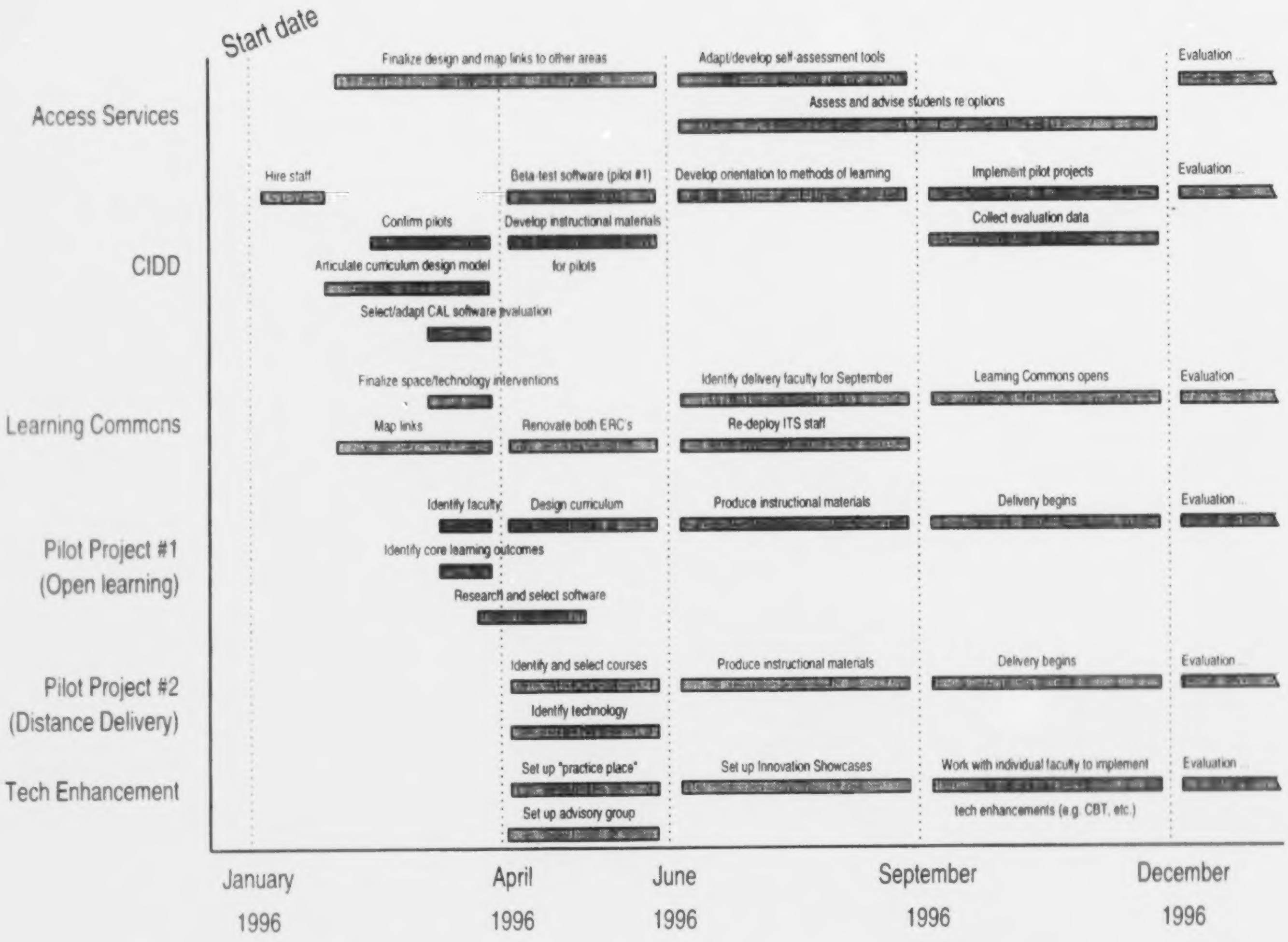
DATE	CIDD	ACCESS	L'NG COMMONS	DISTANCE DEL.	ENHANCED CLASS
	•work with ITS and technical staff to determine technical needs of Distance courses. •work with CIDD to train faculty for deliveries •work with faculty to design orientation for learners to use technology •work with faculty to develop evaluation	•evaluate assessment procedures	April: •renovations (see Pilot #1) •develop orientation for faculty •schedule hours of operation •assign faculty for semester •hire and train peer tutors staff development re: LRCs		
Sept 96	•assist areas of specialization in choosing ready made materials or computer courses or help with converting components of traditional courses to self-paced modules •research curriculum bank further articulate curriculum design models	•begin registration and working with non OCAS students (pilot) •assess and advise students re:options •Assessment and Testing Technician on board (see responsibilities)	•establish Learning Commons at Frost and Brealey		•from prioritized list, select technology to be introduced •develop assessment tool for this
Jan 97			•begin planning for new site: (LC, ERC, DE)		•continue evaluation/acquisition process
Sept 97					
Jan 98					

LRC IMPLEMENTATION SCHEDULE (YEAR 1)

The first step prior to any of the following being implemented is to identify LRC leadership and location in the organizational structure.



THE VISION FOR THE FUTURE

The future holds the possibility of a new site for a Learning Resource Centre in at least one location. In starting to build an LRC, the dream for the future would contain the Learning Commons (including the current ERCs and tutorial areas), the Centre for Instructional Design and Development and distance delivery facilities.

An ideal Learning Commons is a large, airy, bright space with carpeting and appropriate acoustics to ensure quiet. It is a warm, welcoming place where learners come to work, knowing that they are supported in their learning by a variety of people. At the entry, the Learning Commons Coordinator in the reception area welcomes students.

The heart of the Commons is a large, oval, sunken open computing area; students can easily see where available computers are. The computers are arranged on "Y" shaped tables with sufficient space around them to allow students to work with faculty and support staff or with each other. A help desk for students for both content and technical questions is located in the Commons area as are tutorial stations for students and computers designated for learners with special needs. "Student Consulting" through the College 800 number for both technical and peer tutor content support for students doing courses off-site is located here.

Around the outside of this lower central area are a number of rooms, each with a computer, designed for group work. Staff "swing" offices are on this lower level. In addition, there are rooms for distance delivery (audiographics, video conferencing).

On the main level, other areas of the Learning Resource Centre circle the Learning Commons. Approximately one half of the circumference incorporates the library components of the College (including circulation, audio-visual functions and traditional functions) and the Learning Enhancement Centre (including academic support services and testing facilities). The Computer Assistance Centre for technical support (including accessing students' accounts, print accounts, etc.) and the computer training lab is also on this level.

The Centre for Instructional Design and Development with offices for its staff (as outlined in this report) is located on this level. Space includes areas for technical production and a "practice place" for all College members.

Open Computing Area

- oval area
- acoustics designed to ensure quiet

- four steps down from main level; accessible from four staircases and two ramps (note: corridor surrounds entire area on main level)
- anti-static carpet
- natural light provided via skylights or other appropriate means
- 50 "Y" shaped tables (room for 6 computers/total: 300 computers)
  - 6 reserved for docking stations (36)
  - 1 reserved for Special Needs (minimum)
  - 2 reserved for 12 Tutorial workstations (minimum)
- all computers networked
- comfortable chairs appropriate for computing
- all tables equipped with laser printers on a pay/usage basis
- help desks at both ends where content and technical help are available (800 number for content and technical help off-site rings here)

Library Area

- located on main level, comprising at least one quarter of the circumference
- open to computing area
- windows on outside walls
- circulation desk
- AV services area (includes lockable storage room)
- preview room for films, and group viewing of videos
- 10 individual video playback units with headphones
- reference area with 20 networked computer work stations reserved for online searches
- study carrels and work tables
- stacks and periodicals

Learning Enhancement Centre

- located on main level, comprising at least one quarter of the circumference
- counter for coordination of tutorial activities along back wall with at least two network drops
- open to computing area
- shelving for tutorial materials
- windows on outside wall
- round/oval tables seating from 6 - 10 students for small group tutorials
- glass (?) enclosed computer testing room set up with 30 networked computer test stations
- glass (?) enclosed testing room set up with 40 individual desks for paper-based testing
- Special Needs room with specialized equipment for use there as well as to sign out
- reserved computing stations for tutorial software available in open

computing area

Computing Assistance Centre

- on main level, comprising one-sixth of the circumference
- glassed in area
- ITS client service group housed here
- computer training lab not timetabled for regular classes which can be scheduled by faculty and staff for special purposes (e.g., pd sessions, contract training, occasional classes, library training, etc.). This room has 25 networked computer stations and a rear projection screen.

Centre for Instructional Design and Development

- on main level comprising about one-sixth of the circumference
- glassed-in
- multimedia and video production/practice facility for staff projects (adjacent to Computing Assistance Centre). 20′ x 20′ room with 6 networked computer work areas, one digital video editing setup, two scanners, shelves for manuals, etc.
- office space for CIDD staff members; each office has at least two network drops

Distance Delivery Facilities

- 40 seat videoconferencing classroom with the following equipment: two large video monitors, SmartBoard, document camera (Elmo), instructor computing station, audiographics tablet, microphones (one per four students)
- two 20 seat audiographics classrooms equipped with Smart Technology equipment

Other

- 6 group work rooms of varying sizes available for students to book: each room has a table, one networked computer and at least two network drops

While our new facility would be responsive to the uniqueness of its site and its users, the floor plans shown in Figures 7, 8 and 9 are examples of similar facilities.

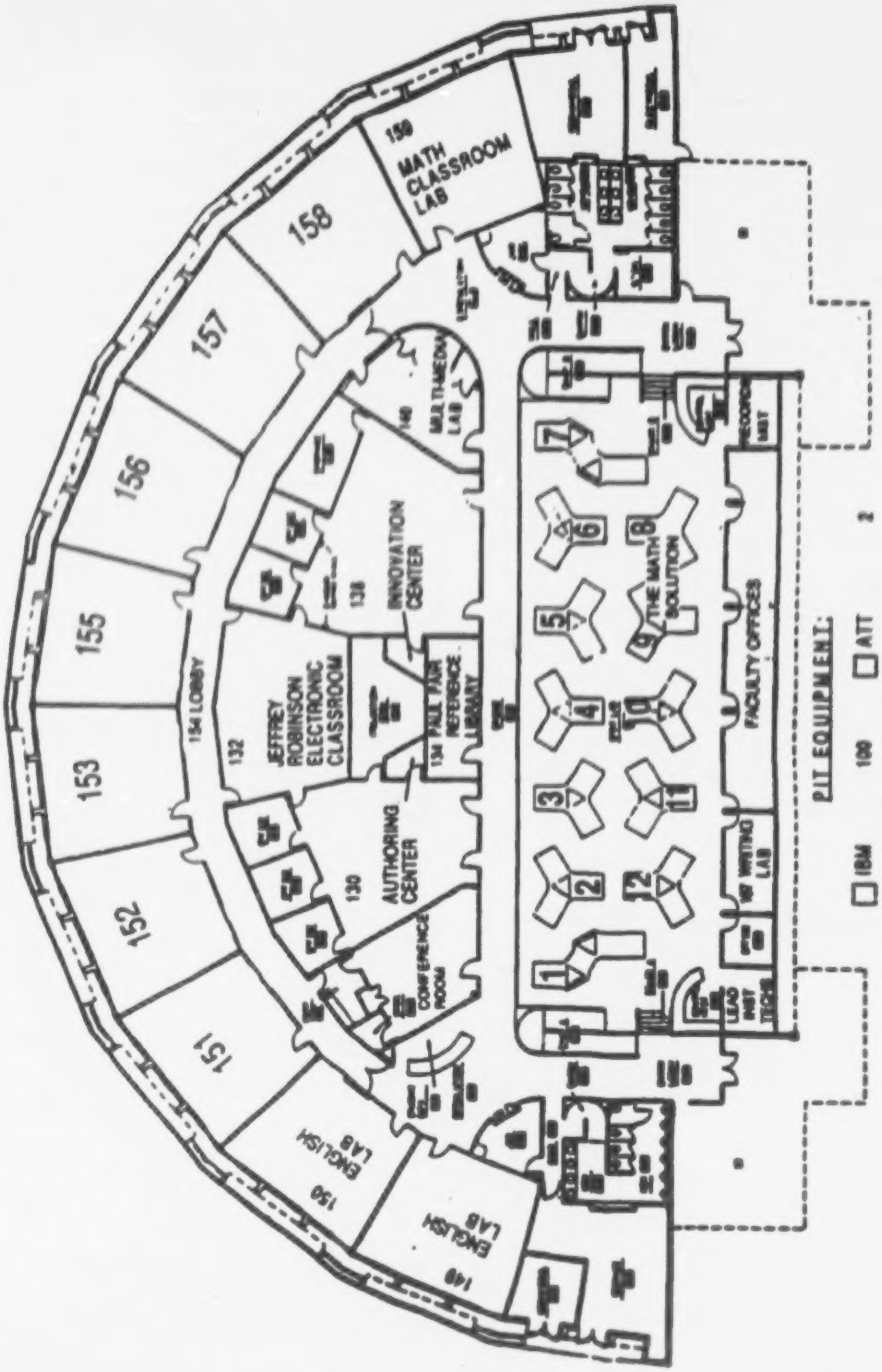


Figure 7 Floor plan for High Tech Centre #2, Glendale Community College, Arizona.

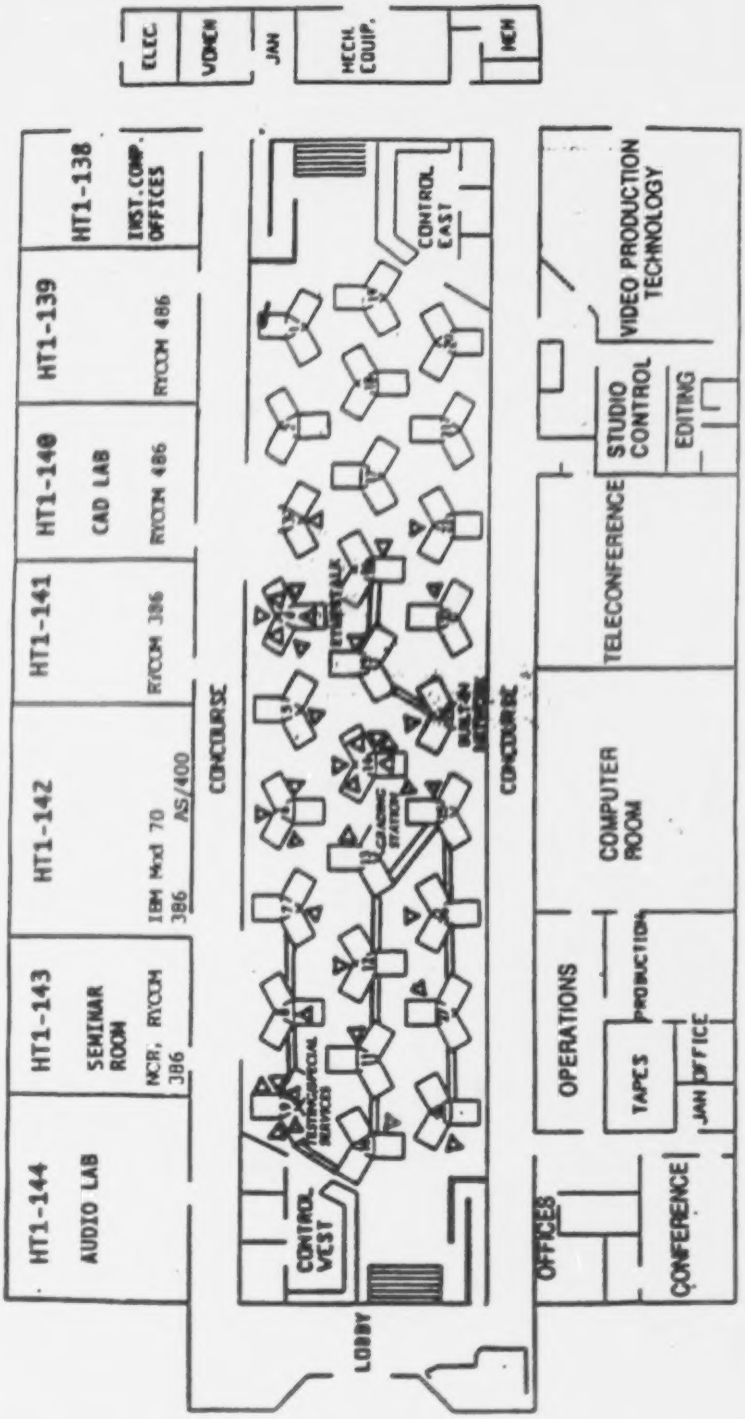


Figure 8 Floor plan for High Tech Centre #1, Glendale Community College, Arizona.

COMPUTING COMMONS

FACILITIES DIRECTORY AND FLOOR PLANS

LEVEL ONE

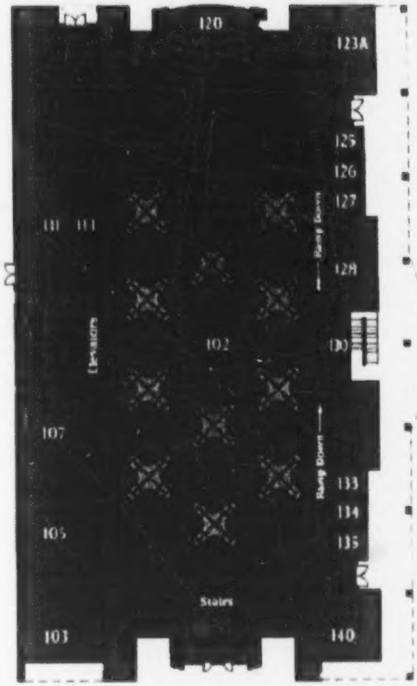
Room 102	Atrium Site	965-4459
Room 120	Auditorium	965-5677*
Room 105	Computer Accounts	965-1211
Room 103	Computer Store	965-4001
Room 107	Classroom	965-6578*
Room 140	Gallery	965-3609
Room 111	IT Tech Shop	965-9127
North Entry	Reception/Information	965-5968
Room 113	Student Consulting	965-6188
Room 123A	Video Conference Room	965-5911*

LEVEL TWO

Room 201, 205, 207, 225 (Classrooms)		965-6578*
Room 215	Color Center	965-8912
Room 202	Computing Assistance Center (COMPASS)	965-5919
Room 213	Consortium for Instructional Innovation (CII)	965-8396
Room 223	IT Training	965-2700
Room 212	Kaleidoscope Classroom	965-6578*
Room 233	Learning Solutions Research Lab	
Room 213	Microcomputer Resource Facility (MiRF)	965-6739
Room 218	Video Production	965-2183
Room 227	Visualization Center	965-9699

*Indicates number to call to schedule this facility

LEVEL ONE



North Entry

LEVEL TWO

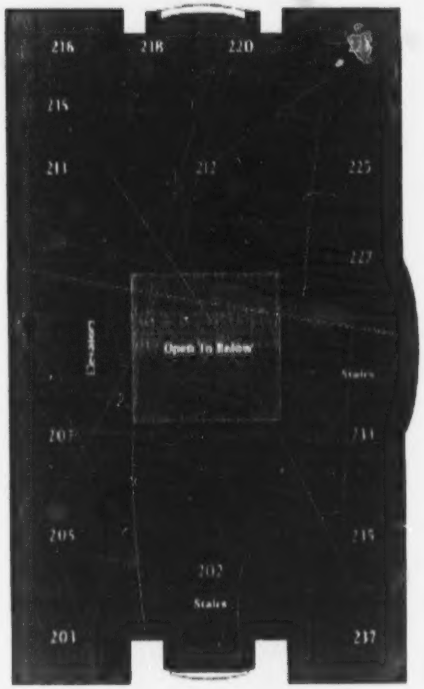


Figure 8 The Computing Commons, Arizona State University, Tempe, Arizona.

SUPPORTS FOR COLLEGE STAFF LEARNING

The implementation of the LRCs at Fleming has significant implications for the acquisition of new and varied skills as faculty, support staff and administrators continue to adapt to their changing roles with respect to learning.

Just as the responsibility for learning is shifting toward more active participation by students, College faculty, staff and administrators must take more active responsibility in identifying their skill requirements, researching the most appropriate opportunities for learning and for pursuing the acquisition of the skills required in their new roles. Like students developing learning plans, faculty, staff and administrators must look at their professional development plans as learning plans.

However, to ensure adequate support exists for the development and updating of skills, professional development should occur within a context of effective performance management. Recommendation 11 (iv) of the Operational Review of Performance Management states that "The Performance Management/Evaluation process should be explicitly linked to professional development processes and opportunities".

The following excerpt from the *Operational Review of Performance Management* describes the role of performance management in both the evaluation of employees and the development of professional development plans.

> Performance Management is defined as "a continuous interactive process through which supervisors motivate and direct employees to achieve optimum performance in their jobs" (Performance Management Booklet 42-1, OPS Management Series, Management Board of Cabinet). The focus of performance management is past, present and future-oriented; the aim is not only to evaluate employees' past performance, but to use that information to set goals for future performance.
>
> Performance management addresses two key areas:
>
> 1. The Process
>
>   - define job responsibilities
>   - set performance standards
>   - communicate standards
>   - monitor performance
>   - counsel on performance
>   - identify development needs and actions
>   - evaluate performance

- complete form and conduct evaluation review
- identify performance goals
- identify career goals and develop plans

2. Creating a Supportive Environment
   - provide necessary tools, equipment and facilities for optimum performance
   - provide necessary training and development for knowledge and skill acquisition
   - provide sufficient resources
   - remove performance obstacles (Addie, et al., 1995, p 7.)

The development of detailed professional development plans, thoroughly supported by supervisors, will ensure that the requirement to acquire new skills or update existing skills is based on an individual's current and future job responsibilities. Effective performance management and the development and tracking of professional development plans will ensure that employees take active responsibility for identifying their learning opportunities, that adequate time is allotted to the pursuit of new skills and that employee development is tracked through a performance management system.

All faculty, staff and administrators will be encouraged to take advantage of the flexible and accessible learning opportunities offered to students. This includes assessment of their learning styles and readiness to adopt technology, access to pertinent information from journals, write-ups, etc. on alternate delivery issues, involvement in appropriate credit courses, participation in workshops integrating learning outcomes, course outline template and modularized curriculum, as well as pursuing learning through the Learning Commons in an open-computing mode.

In addition, a sponsored project approach to learning will be adopted to ensure that faculty and staff have the opportunity and support to grow professionally. Academic Innovation Projects will provide that opportunity.

Academic Innovation Projects

The Academic Innovation Projects are individual or team projects that are funded through off-the-top dollars. After completing detailed project proposals, individuals and/or teams will make application to a selection committee for funding/release time to participate in projects including curriculum design and delivery innovation.

Individuals working on these accepted proposals will meet regularly to share innovations and learning experiences. Given projects of varying duration, the overlap among projects and staff will provide the opportunity for transfer of learning through mentoring.

The ultimate goal of the project approach is to provide hands-on experience to faculty and staff as they acquire and develop their skills related to the redevelopment of curriculum from content and delivery perspectives but at the same time, to place the responsibility for identifying learning requirements with the individuals and/or teams.

These projects will support major curriculum renewal projects and assist with the implementation of provincial initiatives in light of alternate deliveries.

Innovation Showcases

Innovations in teaching will be showcased on a regular basis through a series of presentations organized by the staff of the CIDD. The primary purpose is to give innovators an opportunity to share with their colleagues what they are doing. These sessions will give members of the College community a chance to learn from their peers and perhaps adapt some of the ideas presented for their own teaching.

Student Advising

Student Advisors are critical components to student success. All faculty and staff will have the opportunity to work closely with learners as advisors. Training sessions for student advisors will be an integral part of the system. There need to be orientation workshops in student advising, counselling and information systems as well as ongoing workshops to deal with emerging issues and practices. In addition, student advisors need to be able to access support and skill development on a ongoing basis and as situations arise.

ORGANIZATIONAL STRUCTURE

There are two physical LRC locations: one at Frost and one at Brealey. (LRC functions at other locations will be handled through Frost and Brealey respectively.) Although these two locations operate somewhat independently, there is a central coordination function to ensure that processes, functions and services are consistent; not all roles are replicated in all locations.

Although primary functions of the LRCs will be accomplished through dynamic, multi-disciplinary teams, there will be some team leadership/administrative roles (e.g., the CIDD Team Leader). These leadership roles will report to the VP Academic. During the establishment of the LRCs, some temporary administrative responsibility will need to be assigned.

A summary of the recommended LRC roles follows. More detailed descriptions of these roles can be found in the appropriate sections of this report.

Access Services

- Assessment Referral Desk Staff: 2 full time positions - one at Sutherland; one at Frost
- Assessment & Testing Centre Technician: 2 full time positions - one at Sutherland; one at Frost

Centre for Instructional Design and Development

- Team Leader: 1 full time position
- Instructional Technology Implementor: 1 full time position split between campuses
- Instructional Designers: 2 full time positions - one at Sutherland, one at Frost
- Curriculum Standards Implementor: 1 full time position split between campuses
- Media Specialists: 2 part time positions - one at Frost, one at Sutherland

The Learning Commons

- Library Staff
- Faculty Content Experts
- Peer Tutors
- Faculty Curriculum Generalists
- Learning Commons Computer Technician: 2 full time positions - 1 at

Frost; 1 at Brealey
- Learning Commons Coordinator: 2 full time positions - 1 at Frost; 1 at Brealey

Distance Delivery

- Distance Delivery Coordinator: 1 full time position at either Sutherland or Frost

PARTNERSHIPS

The Learning Resource Centres will provide a point-of-contact and a resource base for the initiation and ongoing maintenance of partnerships in a number of areas.

Partnerships at Fleming are founded on several key principles:

- A partnership must mutually benefit all of the partners.
- A partnership must respect the individual goals and values of each group involved in the partnership.
- Principals involved in the partnership must clearly articulate their strengths and specific level of commitment in terms of resources and any limitations.
- Partnerships are built on flexibility.
- Principals are equal in terms of their ability to participate and challenge each other's positions.
- All specific terms of reference will be documented for future reference and negotiation.

What does Fleming hope to derive from a partnership?

- direct support for our mission which includes a constantly improving, learning organization
- direct support for the continuous improvement of teaching and learning
- increased opportunities for our learners and employees
- differentiation in the marketplace
- revenue generation
- long term sustainability
- a continuous source of creative ideas
- shared expertise
- equipment upgrades

Partnerships will be initiated in the areas of

- curriculum sharing and development
- alternate delivery of courses and training into Fleming from other institutions (e.g., George Brown videoconferencing courses)
- alternate delivery of Fleming courses into other institutions (public and private sector)
- hardware and software purchase/loan/leasing plans for students
- Internet access for students and staff
- arrangements with other institutions for reciprocal use of computing facilities by students

Partnerships are built on the idea of mutual gain. Partners have to identify:

- the expertise and resources they bring to the partnership
- the areas where their competencies complement each other and meet each other's needs
- the areas where there isn't a workable match

The LRCs can provide a focal point for the organization in terms of curriculum banking, instructional design and alternate delivery expertise. This doesn't mean that all the expertise actually resides in the physical structure of the LRCs rather that the LRCs are a focal or contact point. The LRCs will work in conjunction with other units in the College; for example, Alumni, fundraising, international and the Training Services group or other dynamic teams or business units.

Fleming's marketing strategies are also tied to any partnership discussions. Areas for present and future partnerships include at least the following:

- Leading telecomm or information technology firms (e.g., Bell, IBM, Mitel etc.)
- Local and Regional Employers
- School Boards
- Ministry of Natural Resources
- Trent and other Universities
- Eastern Region Colleges
- Other Colleges in the Ontario system and beyond
- Our International Partners (e.g Nihon Fukushi)
- MET - Open Learning & Training Division
- Advisory Committees
- National and International companies (e.g., Bell Northern Research)

A specific example of a partnership as described above is our current negotiations with Bell Canada. Discussions include the following areas:

- developing an "Integrated Community Network (ICN)" (time frame medium to long term). Implications are increased access to individual homes, regional institutions and businesses for the delivery of our courses and potential sharing in revenue streams. An ICN extends the LRCs into the community.
- working with members of the Bell Institute for Professional Development to help them modularize their curriculum.
- working with Bell to develop a business case for a Call Centre at Fleming which can support many activities including our distance learning initiatives.
- working with Bell in the event that Fleming builds a new facility for the LRCs. Bell has expressed interest in the design phase in terms of a "smart" building.
- helping us to integrate our voice and data services and develop revenue streams in our infrastructure (e.g., long distance discounts in the student residence) through proposals developed by Bell.

IDEAS FOR MARKETING

The primary purpose of the LRCs is to increase access and flexibility to all learners by expanding their learning opportunities.

For students, the LRCs will provide greater access to our credentials through alternate delivery of courses and programs. In addition, a more focused front end process, increased advising supports and a greater array of assessment services for career and academic planning will be available to them. To this group, the LRCs should be promoted in terms of

- access
- success
- flexibility
- convenience
- preparedness (student profile/ portfolio)
- increased access to the job market
- career planning

For the staff of the College, the LRCs will provide greater access to learning opportunities and professional development and direct support for faculty involved in traditional and/or alternate delivery using a variety of media and modes. To this group, the LRCs should be promoted in terms of

- access
- support for their missions
- flexibility
- job success

For businesses, the LRCs should be promoted as being able to provide

- support and responsiveness to their general mission
- responsiveness for their specific training needs in flexible, convenient, accessible manner through access to our learning culture
- shared revenue generating opportunities
- facilities and support for their employees' individual and collective professional development

Planned outreach and promotion strategies include

1. The development of promotional materials and events

    - brochures, Web page, (January through April)
    - 10 open houses in the first year (5 for the internal community and 5 for the local and regional community)
    - other joint events with partners (e.g., Bell)

- media advertising, newspapers, radio, television
- production of a complete and up-to-date database and catalogue of curriculum resources

2. A unified approach to the market place

   Sessions will be held with key internal staff (President, VP, Training Services units, individuals responsible for promoting business units) to educate them on the services available so that they can promote the LRCs during their daily contacts with potential customers.

3. Joint marketing of partnership initiatives

   All partnership discussions will include concrete approaches to the joint marketing of partnership initiatives. Any materials developed or events planned in conjunction with a partner will include direct visibility for Sir Sandford Fleming College and the LRCs. For example, if Bell is distributing materials or communicating with their 200+ alliance partners about issues connected to the LRCs at Fleming, then our logo and services will be there front and centre.

4. Inclusion of market research

   The LRCs will, in conjunction with business units and dynamic teams, rely on regular ongoing market research to assess new markets for alternate delivery and assessment services. The LRCs will follow up interventions in the market place to gauge success and adjust services as necessary.

EVALUATION STRATEGIES

The implementation of a well-articulated evaluation plan can assist in the appropriate development of all the components of the LRCs. Evaluation strategies should be planned for and set in motion as soon as possible.

The Master Academic Framework clearly states that "by the end of the full implementation period (2003), a third of all College courses will be offered in both a traditional and alternate delivery mode" (Ashton, 1994, p. 8). The primary responsibility for achieving this objective lies with the LRCs.

The LRCs must set measurable objectives for their operation including objectives for individuals working within them as well as for the activities occurring within their framework. Examples of possible indicators of effectiveness for the Learning Resource Centres are:

- Enrolment growth in alternate delivery areas will be at least 15% per year.
- 80% of students will rate LRC staff and services as good or excellent
- College retention levels will not decrease from pre-LRC levels.
- Faculty use will increase at 25% per year for the first three years and 80% will indicate a satisfaction level of good or excellent.
- 80% of Community users (individuals and organizations) will rate LRC products and services as excellent.
- The LRCs will initiate new partnerships and confirm at least one new strategic partnership per year.

Evaluation strategies will be incorporated into the planning of all services and activities in the LRCs. Staff will work with Fleming Data Research to develop appropriate and consistent measurement and evaluation. Students, faculty and external individuals and groups will be able to provide comments about any service to the LRC group using a variety of methods.

Data will include quantitative and qualitative information collected through formal surveys, evaluation forms and informal contact. The LRC group will share all information except data relating to individual staff performance, proprietary partnership data or details which would violate Freedom of Information regulations.

All LRC initiatives will be costed and expenditures tracked and compared to growth in business.

Besides working on immediate problem-solving, the LRC group should meet frequently to discuss feedback on services and products, identify short-term strategies to solve problems and identify who will implement solutions and who is accountable for follow-up. Group members should also identify, record and assign accountability for longer term follow-up for those issues which need strategic planning for more complete resolution.

Some ideas for evaluation and possible indicators of effectiveness of the LRC components are described below.

Access Services

- Data collection will focus on the number of clients using the services and facilities and their level of satisfaction with them.
- All students and external clients completing assessments will be asked to provide feedback with a customer satisfaction card.
- Within three years, all Fleming students will experience the same front end processes and assessments.
- There will be measurable growth in assessment for external individuals and organizations.

Centre for Instructional Design & Development

- Evaluation will focus on the level of activity, quality of materials developed and level of services offered to faculty and staff.
- All curriculum development and adaptation projects will be evaluated by key participants.
- A yearly evaluation of CIDD services by college staff will be conducted.
- Early in the existence of CIDD a plan will be established to ensure that one-third of Fleming's courses will be available in an alternate form by 2003.
- The number of staff requesting assistance and using CIDD resources will be tracked.
- There will be a measurable increase in the number of appropriate technological enhancements being used by faculty in traditionally delivered courses.

Delivery

- All courses delivered via an alternate mode will be evaluated. Data collected in this way will be used by the CIDD to evaluate the instructional design process and curriculum model.
- Student retention in and satisfaction with courses delivered in the Learning

Commons and at a distance will be measured and compared to that found in traditionally delivered courses. Where data exists, comparisons will also be made to similar courses at other institution.

- Support services for students at a distance will be evaluated with each course delivery.

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APPENDICES

A. Glossary

B. Needs Assessment Survey Results

C. LRC Task Force

D. LRC Advisory Committee

E. Trip Reports

St. Lawrence College Open Learning Centre
Contact North
Laurentian University
Cambrian College
Institute for Academic Technology
Estrella Mountain Community College
Glendale Community College
Mesa Community College
Centennial College Centre for Instructional Development
Collège des Grands Lacs
Bank of Montreal Institute for Learning
George Brown Bell Centre for Distance Education

F. Selected Articles

The Instructor's Changing Role in Distance Education
Classroom, Open, and Distance Teaching: A Faculty View
The Virtual Seminar on the Global Economy

G. Bibliography

APPENDIX A: GLOSSARY

Access Services	The collection of functions and services that provide an initial point of contact for students at the College. Eventually may include such functions and services as student registration, broad-based assessment and testing, student advising and student orientation.
Assessment	Evaluation of the learning status of students for various purposes (Piskurich, 29.21)
Asynchronous	Exchanges occur as time permits over hours or days, not simultaneously.
Audiographics	Refers to the technology that enhances audio teleconferencing by allowing participants to send and receive visual information via the telephone lines. Participants may write or draw on an electronic tablet and have the image seen on monitors in other sites. All sites can send and receive information.
CIDD	Centre for Instructional Design & Delivery
Computer Conferencing	The computer equivalent of telephone conferencing, whereby participants can exchange textual messages on a group basis. Exchanges need not occur simultaneously (synchronously) but can occur over a period of days, hours,as time permits (asynchronous). (Piskurich, 5.34)
Course in a Box	A self contained course that may be primarily print based. may include video tapes, audio tapes and sample kits. This type of course frees learners from time and space constraints.
Delivery Modes	The options by which courses can be delivered
Distance Learning	Teaching and learning that takes place with the teachers and learners separated during part or all of the instructional process.
Independent Learning	Course design which enables learners to study on their own, using specially designed learning packages supported by course instructors/tutors and often linked to each other through technology. Independent learning students often visit an institutional or instructional site for support and testing.
Independent Learning Option (ILO)	The learners negotiate a learning contract with a faculty member about they will achieve the stated learning outcomes in the defined learning time.
Instructional Development	A systematic approach to the design, production, evaluation and utilization of systems of instruction.

ITS	Information Technology Services.
Learner	Any individual engaged in acquiring new skills, attitudes, or knowledge whether with a specified sequence of instruction or a random assortment of stimuli (Piskurich, 29.23).
Learner Defined Site	A location selected by the learner (home, office, etc). The institution does not require students to be in a particular location in order to learn.
Learning Commons	Open computing areas that provide instructional support for Open-entry courses and independent components of traditional courses as well as computing support. Accesses Information Commons material electronically.
Learning Style	Psychological traits that determine how learners perceive, interact with and respond to learning environments (Piskurich, 23.25).
Module	A manageable unit of instruction usually designed for the achievement of defined learning outcomes. (N.B. A definition for use at Fleming needs to be developed)
Off-site Course Delivery	Refers to courses that are offered to students that do not require regular attendance at the location of the educational institution.
On-site Delivery	Refers to courses that require regular attendance at the location of the educational institution.
Open-entry Courses	Courses where learners select the start date. The end date is equal to the start date plus a fixed maximum time to complete the course.
Place Bound	Refers to a requirement for students to access and compete a course in a specific place during the learning process.
Remote Access Site	A location defined by the institution. The institution also provides support to this site in terms of technology, staffing and student supports. This could include another educational institution, the public library. a business, a location on campus, etc.
Student Evaluation	The collection and reviewing of data about a student before, during and after a course.
Synchronous	Exchanges occur simultaneously.
Teleconferencing	Refers to the use of telephone technology to link students to a teacher or to other students and in this way provide a degree of interactivity to participants in off site situations.
Telecourses	Refers to courses that incorporate a variety of media (video, text, telephone and television) with some kind of teleconferencing technology

Time Bound	Refers to a requirement for students to access and a complete a course at specific times during the learning process.
Video Conferencing	Two way electronic voice and video communication between two or more groups or individuals who are in separate locations. May be fully interactive voice and video (Piskurich, 5.36).
Web	World Wide Web
World Wide Web	An Internet service that organizes information using hypermedia. Each document can contain embedded references to images, audio, or other documents. A user browsers for information by following references (Comer, 1995, p. 306)
WWW	World Wide Web

APPENDIX B: NEEDS ASSESSMENT RESULTS

Overall response rate: 13%
Total number of respondents: 121

Demographics

Staffing Categories:

29%	Support Staff
54%	Faculty
14%	Administrator
1%	Other
3%	No Response

Representation by function/area:

10%	School of Access & Part-time Studies
17%	School of Applied Arts & Health
13%	School of Business
12%	School of Technology & Law
18%	School of Natural Resources
3%	Accounting/Finance/Purchasing
5%	Educational Resources
3%	Marketing & Institutional Development
9%	Student & Staff Development
1%	Registrar's Office
4%	Information Technology
2%	President's/Vice President's Office
4%	No Response

Primary Location:

48%	Brealey
10%	McDonnel Street
28%	Frost Campus
8%	Fleming Centre
1%	Lakeshore Campus
2%	Haliburton

Top 5 Functions and Services for Implementation in 1996-1997 Budget Year:

(based on the percentage of people selecting the item and ranking it among the top 5. Note: 6 items included in list due to tie for 5th)

Expertise for *delivery* of curriculum in alternate formats
Expertise for faculty *designing* traditional and alternate delivery curriculum
Front end assessment
Open computer labs for self-paced learning
Expertise for the development of educational/course software
Computer search/research facilities

Centralized Functions and Services

Assessment of special needs
Assessment of prior learning
Assessment for external employers
Outgoing broadcast functions for distance education
Technology-based conferencing facilities for employers and community groups
Facilities for community/employer staff training
Expertise for faculty *designing* traditional and alternate delivery curriculum
Expertise for *delivery* of curriculum in *alternate formats* (distance ed, multimedia, AV, etc.)

Expertise for *delivery* of curriculum in *traditional formats*
Expertise for the development of educational/course software
Expertise in the assessment of software
Expertise in the assessment of hardware
Publishing / printing facilities for development of just-in-time course material

Decentralized Functions and Services

Front end assessment
Personalized learning tutorial
Support for special needs
Computer labs for individualized and group instruction to students
Open computer labs for self-paced learning
Multimedia labs for student instruction
Facilities for staff to develop AV materials
AV labs, materials and programs for student instruction
Interactive classrooms to receive incoming distance education broadcasts
Traditional library services
Computer search/research facilities

Functions and Services that MUST be included in Fleming's LRCs - In order of frequency of selection

Open computer labs for self-paced learning (82%)
Expertise for *delivery* of curriculum in alternate formats (82%)
AV labs, materials and programs for student instruction (80%)
Computer search/research facilities (79%)
Expertise for faculty *designing* traditional and alternate delivery curriculum (78%)

Traditional library services (77%)
Front end assessment (74%)
Expertise in the assessment of software (73%)
Computer labs for individualized instruction to students (72%)
Facilities for staff to develop AV materials (70%)
Multimedia labs for student instruction (69%)
Personalized learning tutorial (69%)
Support for special needs(68%)
Expertise for the development of educational/course software (67%)
Outgoing broadcast functions for distance education (65%)
Interactive classrooms to receive incoming distance education broadcasts (65%)
Assessment of special needs (64%)

Assessment of prior learning (63%)
Expertise for *delivery* of curriculum in *traditional formats* (58%)
Expertise in the assessment of hardware (58%)
Publishing / printing facilities for development of just-in-time course material (55%)
Computer labs for group instruction to students (50%)
Technology-based conferencing facilities for employers and community groups (46%)
Facilities for community/employer staff training (44%)
Assessment for external employers (36%)

Single Most Significant Issue to Resolve Prior to Implementation

35%	Funding
26%	Level of expertise of staff/faculty
12%	Physical space
7%	Time
8%	Other (most frequently cited "other" included: organizational commitment)

Possible LRC Functions and Services

Functions and Services	**% Selecting Item**	**Relative Importance to Meeting MAF Goals (Based on % selecting item)**	**Centralized/ Decentralized**
Front End Assessment	74%	6	Decentralized (C 41%) (D 51%)
Assessment of Special Needs	64%	14	Centralized (C 51%) (D 44%)
Assessment of Prior Learning	63%	15	Centralized (C 50%) (D 45%)
Personalized Learning Tutorial	69%	10	Decentralized (C 27%) (D 62%)
Assessment for External Employers	36%	21	Centralized (C 64%) (D 27%)
Support for Special Needs	68%	11	Decentralized (C 30%) (D 52%)
Computer labs for individualized instruction to students	72%	8	Decentralized (C 17%) (D 71%)

Computer labs for group instruction to students	50%	18	Decentralized (C 20%) (D 67%)
Open computer labs for self-paced learning	82%	1	Decentralized (C 15%) (D 73%)
Audio-visual labs, materials, and programs for student instruction	80%	2	Decentralized (C 22%) (D 63%)
Facilities for staff to develop AV materials	70%	9	Decentralized (C 38%) (D 51%)
Multimedia labs for student instruction	69%	10	Decentralized (C 30%) (D 59%)
Outgoing broadcast functions for distance education	65%	13	Centralized (C 51%) (D 36%)
Interactive classrooms to receive incoming distance education broadcasts	65%	13	Decentralized (C 29%) (D 60%)
Technology-based conferencing facilities for employers and community groups	46%	19	Centralized (C 51%) (D 38%)
Facilities for community / employer staff training	44%	20	Centralized (C 42%) (D 40%)
Traditional library services (borrowing, inter-library loans, etc.)	77%	5	Decentralized (C 32%) (D 54%)
Computer search / research facilities	79%	3	Decentralized (C 25%) (D 59%)
Expertise for faculty designing traditional and alternate delivery curriculum	78%	4	Centralized (C 52%) (D 35%)
Expertise for delivery of curriculum in alternate formats (eg. Distance ed, multimedia, audiovisual)	82%	1	Centralized (C 51%) (D 34%)
Expertise for delivery of curriculum in traditional formats	58%	16	Centralized (C 44%) (D 41%)

Expertise for the development of educational / course software	67%	12	Centralized (C 54%) (D 30%)
Expertise in the assessment of software	73%	7	Centralized (C 64%) (D 20%)
Expertise in the assessment of hardware	58%	16	Centralized (C 67%) (D 20%)
Publishing / printing facilities for development of just-in-time course material	55%	17	Centralized (C 62%) (D 23%)

Suggestions for Additional LRC Functions and Services:

Meeting space for students to talk
Internet/E-mail access
Student services centre
Readability assessment (learning materials)
Space to develop materials
Counselling in delivery selection for students

APPENDIX C: LRC TASK FORCE

One of the projects resulting from the Master Academic Framework paper was "the establishment of an alternate delivery steering committee, chaired by a member of the School of Health and Applied Arts and comprised of members representing academic schools and services throughout Fleming College" (Honsberger, 1995, p. 3). The committee, which became the Learning Resource Centre Task Force, made a number of recommendations which are contained in the report *Learning Resource Centre Recommendations for Fleming College*. The result of these recommendations was the establishment of the LRC Project Team.

Members on the LRC Task Force included

Janet Honsberger (Chair)	School of Health and Applied Arts
Jim Angel	Information Technology
Jim Avery	School of Business
Carolyn Bossi	Student Life, Brealey
Gale Butterill	Educational Resources, Frost
Larry Carr-Braint	Student Development, Frost
Heather Chalmers	Community Services Department
Janice Coughlin	Educational Resources, Sutherland
Joan Coyle	Health Science Department
Debra Holts	School of Technology and Law
Brenda Jamieson	Part-time Studies
Carol Mazeikis	Continuing Education
Mike Power	Health Science
Ruth Smith	Staff Development
Patty Stone	Communications

APPENDIX D: LRC ADVISORY COMMITTEE

Through a memo to the College community, *Fleming in Brief* and area Deans and Directors, each SAC, school, campus, service area and union was asked to identify a volunteer to represent it at three meetings:

September 18, 1995
October 24, 1995
November 29, 1995

The purpose of the advisory committee was to assist in promoting the LRC project within individual areas and to provide feedback from member's areas on draft documents and considerations.

Advisory Board Members

Placement	Claudette Lachance-Wykes
ERC's	Janice Coughlin Gail Butterill
College Communications	Heather Kerrigan
Student Life	Liz Mathewson
Student Life/Staff Development (Frost)	Larry Carr-Braint
Student/Staff Development	Sherry Taylor
SAC: Sutherland	John Cavan
SAC: Frost	Vince Chabot
Union	Gary Bonczak Ray Foster
Tech and Law	Charles Bonnycastle Jim Hales
Applied Arts/ Health	Kim Van Bruinessen Helen Knibb
Access	Bev Eldridge
School of Business	Jim Avery
Lakeshore	Terri Jarvis
LRC Team	Karen Sjolin Susan Markanen Pat Parnall Jim Angel
VP Academic	Terry Dance-Bennink

APPENDIX E: TRIP REPORTS

ST. LAWRENCE COLLEGE, KINGSTON

SEPTEMBER 8, 1995

PAUL VAN NEST, OPEN LEARNING CENTRE COORDINATOR

Background

Provincial task force (TMI) working on report submitted to government one day after provincial election in June, 1995. Report not tabled and so no action taken on list of recommendations or initiatives for provincial "network".

Issues raised in report include a common terminology and a plan for structuring a provincial "network" of Open Learning Centres.

Paul has hosted several delegations from Fleming. Paul also gave a PD session to nine Fleming faculty and staff in the spring of 1992.

Many current documents available. We need to access Algonquin report, "Flexible Delivery" (Anne Croll) Debbie Ball (Confederation) report includes models.

St. Lawrence Model

Open Learning Centre in Kingston is now in new location in separate building from main campus. Advantages: more space; disadvantages: lack of visibility. There are OLC's in Brockville and Cornwall.
Registrations in 1994-95 were 1,400; number of student contact hours, 36,000.

Centre has recently moved from under VP academic to being part of Centre for Business and Industrial Training. Paul feels there is potential there to develop partnerships with business and to offer individualized training for partners.

Open learning is funded as Continuing Education courses and has always funded itself. Twenty - five percent of Continuing Education courses are run by open learning.

There is no advisory committee .

Centre consists of large airy reception centre with two desks, large storage area for teacher and learner materials and modules, offices, large "classroom" with computers and teaching stations, testing room with glass and new study area.

Students are only part time; no full time students are allowed to take courses through the OLC's. Counselling appears to be a function of the Open Learning Centre in that students who are returning to school often discuss their goals with the staff and then try out a few modules in a variety of areas to find a match of interest and ability. Emphasis is on "trying out"; students do not fail doing this. Courses do prepare students for full time success. "A credit is a credit".

Materials are for independent learners as a form of "home study" with built in learning loops (opportunities for teacher contact) for learner and teacher feedback. Materials are modularized.

Students register at the centre, get counselling about this mode of learning, and set out a learning plan with definite contact points, tests and end dates. There is no preparatory module, but that would be a recommendation.

Tracking is a key issue. Important for teachers and learners to know where they are and when they finish. System of check sheets developed and teachers will call if a student hasn't checked in at designated point.

Learners use materials in a self study mode at home. Learners come to college each week to complete a computer based unit, to test and to connect with teachers. Frequent testing is a key to the model.

Course/program evaluation is informal and in the form of a questionnaire.

English classes are not part of the centre as they required too much feedback and are labour intensive for faculty.

Materials Development

Faculty alone should not design materials. A team approach is needed. Teams consist of:

- subject matter expert (plus one for feedback)
- curriculum designer (oversees form, instruction)
- evaluator (test effectiveness and feedback)
- editor (for publication: format, pages, etc)

St. Lawrence strongly supports a "network" of Open Learning Centres in order to share courses and materials. Course developers are paid from $900-$2400 to develop a course, $600 to "fix up" materials.

Suggestions for Implementation

- Be visible. Locate in a prominent place
- Start with part time students only
- Start with programs and courses already developed (from other colleges)
- Develop continuing education courses
- Use part time faculty
- Individualize parts of a course.
- Allow substantial time for teacher training. Advertise positions to get best people. "Interested" people are not always the best one for self-paced, open learning courses.

Issues

- ACCESS!!
- Name of Centre. LRC implies libraries in Ontario.
- Rapid decision making is required as Centre can respond to "just in time" programming for business or student needs (missing course, etc.)
- Relationship to full time students:
    1) Fiscal line: Who pays? Does centre get $ for accepting FT student for a course?
    2) Uses where money can be saved. For example: delivering OBS through open learning or Humber who is delivering all first semester computer courses through open learning or Centennial who delivers 12 sections of Accounting 1

traditionally and several through open learning

3) Tracking: The mix of PT/FT doesn't work at St. Lawrence. By the nature of independent study, the individualized course has always suffered, even with time lines.

4) Move of convenience: Timetabling conflicts, a student not liking a particular teacher , etc. are not good enough reasons at St. Lawrence for students to move into open learning course.

- Size of Centre:

  Determined by: economics, staffing and training and by space allocation. Recommendation to consider expansion when planning.

- Position of Centre

  LRC implies Library according to provincial definitions.

  Libraries are a free service to learners and to the communities. If Centre is located there or called that does it imply that all the facilities of an LRC and available free of charge to users.

- Staffing

  At St. Lawrence, all faculty in the OLC are part time (except for Paul who teaches and coordinates).

  A local agreement with the union allows all part time faculty to be assigned on a 2:1 ratio. Because all materials are developed and all marking is done on site, teachers do not have a preparation factor. They are contracted to teach a certain number of hours and then to spend the same number of hours in the centre familiarizing themselves with materials, developing materials or guides, marking.

  e.g., Teachers are hired for 12 hours which means spending 24 hours in the Centre.

CONTACT NORTH: NE REGIONAL COORDINATING CENTRE, SUDBURY

SEPTEMBER 11, 1995

GÉRARD LAFRENIÈRE, NE REGION DIRECTOR
GERRY LAVIOLETTE, TECHNICAL COORDINATOR
HENRIETTE DAUPHINAIS, FRANCOPHONE & COMMUNITY LIAISON OFFICER

Background

Contact North is a distance education network (fully funded by the provincial government) which provides the technological infrastructure required to deliver a variety of courses to communities throughout Northern Ontario. The network includes access sites in approximately 150 communities which are used by a variety of educational institutions and non-profit organizations to bring courses and information to learners. It has experienced an average growth of 20% per year.

Fully serviced sites have information about courses and programs available in that community, as well as staff to provide assistance with course registration, supervision of tests and exams and technical support to students. Staff at sites also act as a liaison between the communities and the institutions and expedite contact between students and their schools. Partially serviced sites are staffed as needed.

Delivery Model

The member institutions, which include high schools, community colleges, universities and non-profit organizations, provide the content for delivery while Contact North provides the technology required to deliver it.

While print-based materials provide the backbone of all courses, direct contact and instructional structure are considered to be important components and so all courses are supplemented/delivered using some form of communications technology. The technologies used are:

Audioconferencing

- familiar technology since almost everyone uses a phone therefore no new skills are required
- half-duplex is used so protocols for communicating must be established
- retention is better than with purely print-based courses, but sessions are still boring
- people still can't see each other

Audiographics

- adds an electronic remote blackboard/overhead projector to the audio
- visual and audio are both 2-way therefore interaction is improved
- use Optel communications Telewriter system because it's the only system which works effectively on a single phone line (less expensive than 2 phone lines)
- very slow transmission of images therefore prepare in advance and send disks to remote sites. At broadcast site, all computer commands are reflected at remote sites (e.g., to retrieve image)
- "live" info, like writing on tablet is transmitted instantly
- slide projector, o/h projector and blackboard all in one
- audio interruptions can be handled more effectively
- can type rather than write if preferred
- blackboard features are usable on top of slides
- normally use slides as templates
- keyboard is OK for annotation and labelling
- annotated version can be saved as a "transparency" which can be put over a slide
- cost is about $3,000 for tablet, s/w, special modem. (A computer is required as well.)
- links are established via teleconferencing
- technical support is available on site

Video Conferencing (compressed video)

- available at 9 sites (7 regional, 2 central)
- used when motion is important
- whoever is speaking is on-screen
- very expensive ($60-70,000 per site)
- choppy
- provides more instant access for transmission of slides, etc.
- requires 2 - 56 kbps lines; fibre optic connections would allow for more options
- many institutions are using the systems as sophisticated audiographics systems

Computer Conferencing

- via the Internet: barely started

Supports for Learners

- assessed for suitability for this mode of learning (CN provides a pre-assessment guide for students)
- course, program, registration information
- phone for contacting institution
- technical support during classes

Supports for Teachers

- teacher training on how to use equipment
- technical support
- assistance in planning effective use of technology

Recommendations

- adapt already existing correspondence courses to different technologies
- define what is meant by "interaction"
- must ensure compatibility of technology with partners
- course development & technology: teachers have to learn to interact differently
- get students involved in piloting, testing courseware & evaluation
- buddy systems: experienced user & new user

LAURENTIAN UNIVERSITY, SUDBURY
SEPTEMBER 12, 1995

SHARON ROY, INSTRUCTIONAL DESIGNER

Background

Distance education is coordinated through the Centre for Continuing Education (Denis Mayer - Director). The centre has several instructional designers on staff (2 English language designers, and 1 French language designer), and one person whose job it is to research course content software for use in distance education.

The Centre for Continuing Education has overall responsibility for the development and delivery of Distance Education material. Specifically, they are responsible for: administration, coordination, scheduling and timeline monitoring, meeting set-up, preparation of manuals, promotes and delivers program, budget process, needs assessment, course evaluations and reviews. Refer to course material provided by Laurentian.

They are currently in the process of developing PD for doing distance education, including the learning process, how students absorb material, etc...

Cost of distance education courses is $35.00 more than the on-campus courses.

Distance Education Model

Distance Education courses at Laurentian are specifically for part-time students or intercession courses. Laurentian restricts the enrolment of full-time students in distance education courses.

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Full-time students are not allowed to enrol if the course is being offered on campus (although exceptions are made in very extenuating circumstances). However, if an enrolment cap has been placed on an on-campus course and the class is full, the students are able to enrol through distance education.

Laurentian has a distribution centre on site. Staff in the centre do all the course mailing to students, or students can come to the distribution centre. Textbooks and readings are available through the distribution centre, or through book order forms.

Instructional Design Model

All distance education material is produced through a *course team* the purpose of which is to support the author, ensure the completeness of content, ensure quality, and meet the Laurentian University standards. Distance education courses are referred to as: *Envision Courses*.

The following are representatives on the *Course Team*: (Refer to the handout from Sharon Roy re: details on design and development process)

Author:
Content expert, prepares course outlines, writes course, identifies and gathers support material, selects required text(s) and/or visual and audio aids, develops exercises and test(s) to evaluate student progress.

External Reviewers (1 internal, 1 external):
Selected by the author, they review the course outline, making recommendations and suggestions, review the course content for completeness/bias, suggest additions, deletions, modifications, suggest course text(s) and other reference material, suggest exercises and test(s) to evaluate students.

Instructional Designer:
Learning objectives, work with author to decide on use of media appropriate to course content, exercises to evaluate students.

Editors:
Reads as a naive student, spelling, grammar, sentence structure, how content is presented visually, presentation.

The following people/areas are also part of the curriculum development process:

Centre for Continuing Education Representative:
Responsible for the timelines, addressing problems that arise, organizing support staff functions such as typing, set-up and layout, printing copies of materials and distribution of materials to external reviewers, coordinating material during development process, preparing material for student packages (kits), copyright clearance.

Library:
Ensures availability of readings and reference material through the library.

Media Centre:
Responsible for the use of cassettes and videos, organizes recording sessions, transfers 16mm to video, dubbing process, etc.

Development cycle for courses currently offered on campus is approximately 8-12 months. Individual instructional designers are responsible for a maximum of about 3 courses per year at one time. Most designers work at home under contract.

Course material is ultimately owned by the University.

Laurentian will consider producing a distance education course is there are less than 5 similar courses available in the province. CCE tracks the demand for courses and may recommend development or changes based on:

- an old course that needs revisions
- the texts have changed significantly such that chapters and page numbers are out of alignment
- student request
- departmental request
- the advice of a marketing person whose job it is to identify course needs. (Note that they have just hired a person, Cindy-Eve Bijoux, to find out about the marketing requirements for courses).

Reimbursement

Reviewers receive $500 for a ½ credit course; $1000 for a full credit course.
Authors are reimbursed depending on their release time.
Often the development of courses is funded by external groups (e.g., Native courses).
When courses must be updated/revised, the original author is paid 10% of the original contract price to revise the material. The editors are paid on an hourly basis.

Course Evaluation

All new courses are automatically evaluated. Other courses are evaluated as needed based on student feedback, or after a shelf life of 5 years, courses are reviewed and students are asked to provide feedback.

Issues

You can expect some initial resistance from some faculty to working with an instructional designer, however Sharon's experience has been that once they go through the distance education process, they often come back for assistance for traditional classroom material. As well, professors are using the distance materials in their classroom courses and recommending students also purchase the distance material. Sharon talked about the need for the instructional designer to have excellent interpersonal skills and a good understanding of the "design" process and the art of negotiation.

Critical to the success of the material is a comprehensive understanding of who the audience is, and what the objectives of the course are.

CAMBRIAN COLLEGE, SUDBURY
SEPTEMBER 12, 1995

GEORGE TOMPKINS, DISTANCE EDUCATION COORDINATOR

Background

The Distance Education department has been in existence since 1986, with George Tompkins as coordinator. Many of the projects coming through the department for development were originally sponsored by the Northern Development Fund and as a result, several have been developed in collaboration with other institutions. Cambrian is currently the only college to be developing courses for the Internet (adapting the *Teachers as Adults* courses for delivery this fall).

Through distance education, students can start a course any day of any month (with the exception of summer months) and they will have 16 weeks to complete the material. They are currently adapting the distance ed material to self-paced/independent learning modules.

Administrative Structure

Originally part of Continuing Education, Distance Education now stands as a separate department reporting through the Dean of Academic Development, who reports to the VP Academic. Their goal is to remain as a stand-alone department. Departmental staffing includes:

Director of Distance Education	Joanna Taylor
Coordinator of Distance Education	George Tompkins
Instructional Designer	Richard Mende Carmen Simmons

The mandate of the department is to facilitate the development and delivery of distance education material. Within the department, "everyone does everything", and the department is also responsible for the distribution of materials.

Distance Education Model

The team acknowledged that a college policy is required to address the use of distance education material in the traditional classroom. At Cambrian, this is directly related to how the department is funded for students taking distance education.

Distance Education courses at Cambrian are available to all students, both full-time (FT) and part-time (PT). FT students can access Distance Ed courses and the fees are waived, however they must pay the additional delivery costs. If a FT student is registered in a FT course and takes it via Distance Education, then fees are waived subject to approval by the departmental chair and the Registrar's Office.

Distance Education courses do have different course numbers from the traditional on-campus courses, although they are looking into this. Although this is the case, in some cases, business administration for example, students have three different modes in which to take a course and they select the delivery modes most suitable to them.

Instructional Design Model

Until recently, Cambrian hired external staff to develop course material. However, they are currently looking at an instructional design model that incorporates the writer tasks, the collaborative tasks, and the instructional designer tasks. The School of Technology and the School of Business are now looking at release time for faculty to develop distance education material. As an aside, they indicated that Confederation College SWF's faculty to do development. They are provided with one free day per week to do development over a 4 month time period. The expected outcome at the end of that time would be a complete course manual.

Refer to the *Cambrian College Distance Education - Independent Learning Critical Path for Instructional Designer and Course Writer* model for additional details on the role of the writer and the designer.

Cambrian estimated that it costs approximately $20,000.00 to develop a course, and strongly recommended that courses be purchased, rather than developed in-house, wherever possible.

The development cycle for courses currently offered on campus is approximately 6-9 months.

Reimbursement

Not addressed as they are hiring external consultants.

Course Evaluation

Cambrian had an interesting perspective on this and really felt that Distance Education was a good way to cycle programs that had reached a saturation point in the local market. In order to do this, you must know your market very well.

Issues

Some of the key barriers identified by the staff at Cambrian include:

> Trust: Is this a legitimate form of education, or something that will just result in job loss?
> Outcomes: Does it result in quality education?
> Issues of change
> Loss of control as they move to learner centred methods: Faculty power is depleted as teleconferences become seminars, not lectures.

The type of administrator of a distance education program is key to the success of the program.

The key with distance education is not the loss of jobs, but the changes to people's jobs. Changes in development, changes in evaluation and changes in tracking. All of these can be faculty jobs.

Strong concern that as soon as students get passed around, they are lost. Distance education staff facilitate as many problems for students to ease the stressors on other departments.

Considerable liaison with the Registration process (recommended we consider a 1-800 number), Financial Aid for students, Academic counselling (the distance education people do a lot of academic counselling which is very time consuming).

The Cambrian distance education office took over 1200 calls during the month of August. This has ramifications for the phone systems, long distance charges, and accessing information on students. It must be fast.

Institute of Academic Technology (IAT)
University of North Carolina at Chapel Hill
September 27, 1995

Mary Edeburn, Project Manager

Background

The background and history of the IAT is summarized in a hard copy information package and on the WWW, accessed through the Fleming College Web page. What follows is a brief summary of their mission and the notes from our visit.

The IAT is dedicated to the proposition that information technology can be a valuable tool for 1). increasing the quality of student learning, 2). increasing access to education, and 3). containing the costs of education.

The IAT is sponsored by IBM and facilitates the widespread use of effective and affordable technologies in higher education. They offer numerous seminars, hands-on workshops, satellite broadcasts and videotapes, and printed and electronic publications to keep educators informed about available instructional technologies and to help them explore the use of these technologies on individual campuses.

As excerpted from the Web Page, the IAT offers the following services:

Briefing Session (one day) - Construct your own briefing session by choosing topics from selections such as:

Executive Overview
Information Policy
Student-Centred Services
Encouraging and Supporting Faculty Use
Pedagogical Overview
Learning and Teaching
Enhancing Instructional Effectiveness
Distance Education and Distributed Learning
Designing Technology Classrooms
Technology Overview
Planning and Implementing Networks
Networked Multimedia
Application Demonstrations (Express Author, ToolBook, MathKit)

The Briefing Session consists of:

Discussion of your environment and goals.
Three 2-hour presentations/discussions on the topics of your choice.
Wrap-up/question-and-answer session.

Cost: $2,500 for a group of up to 16 participants.

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Goal-Setting Session - (one or more days)

A typical day-long session consists of a guided discussion between your participants and selected experts at the IAT. Your session leader will guide you through a discussion of the issues involved in meeting your specific objectives.

The session will help you do the following:

Clarify your goals and objectives.
Identify major obstacles to achieving your objectives.
Determine steps necessary to develop your plan.

Cost: $2,500 per day for a group of up to 10 participants.

Project Review Session (one or more days)

Groups requesting a Project Review Session are expected to have begun planning a well-defined project of a technological and/or pedagogical nature. Participants should include the primary players in the design and implementation process. A typical day-long session consists of a guided discussion between your participants and selected experts at the IAT (chosen for their expertise in technical or content areas relevant to your specific project).

Together, we will review your current project plans in relation to the following:

Goals and parameters of your technology implementation project.
Personnel involved in the planning, implementation and support phases of the project.
Users of the final system or process.
Technology choices and requirements for implementation.
Pedagogical implications of those technology choices.
Necessary support services.
Perceived strengths and weaknesses of your plan.
Alternate technological and/or pedagogical strategies.
Potential steps for refining or revising your plan.

The Project Review Session concludes with a summary discussion of the observations and conclusions reached by the group as a whole.

Cost: $2,500 per day for a group of up to 10 participants.

The visit to the IAT was spurred on after reading the Durham University Centre proposal in which they describe the potential for partnership with the IAT. After reading their Web Page and seeing their request for partnership, the LRC Project Team decided to visit the centre to determine exactly what they can offer us as we undertake the LRC project at Fleming, and to determine whether we may be interested in the partnership request. A summary of the partnership request is contained below:

"The Partnership for Distributed Learning is an emerging program designed to offer 20-30 institutions a close working relationship with the IAT's research and solutions development efforts. The focus will be on the use of Web-based tools for delivering content, enabling new modes of communications among instructors and students, and managing the instructional process in a credit-bearing, distributed context.

Participating institutions will subscribe to a "seat at the table" as the IAT shapes and reports its efforts to understand and prototype distributed instruction. Partner institutions will have the opportunity to invest in projects that they or the IAT proposes."

Full details on the partnership are included on the IAT Web Page accessible through the Fleming Web page.

The IAT also has an interesting **Affiliate Program**. The following information has been extracted from the IAT Web Page:

The IAT, in accordance with its educational mission, will provide a bundle of IAT workshops, satellite broadcasts, and other services to a limited set of qualified, geographically distributed educational institutions. The year-long series will enable those institutions to provide high-quality training in the use of educational technology for a wider audience than either they or the IAT could reach alone. The initial emphasis will be in the use of authoring tools such as Asymetrix ToolBook. Those qualifying for and participating in the program will be able to identify themselves as IAT Affiliated institutions.

Current list of Affiliates

- Hudson Valley Community College (NY)
- Portland Community College (OR)
- College of Du Page (IL)
- University of Minnesota

Program Benefits

National Prominence:

- Affiliation with nationally-recognized Institute
- National association with other educational institutions
- Participation in development of new technologies through IAT beta testing program
- Platform for attracting additional funding (FIPSE, foundations, etc.)

Technical Instruction:

- ToolBook workshops
- Other workshops as appropriate as technology evolves

Certification:

- Institution fulfils Affiliate Program prerequisites
- Instructors successfully complete the Affiliate Program technical instruction

Program Support:

- Private listserv membership
- Satellite broadcasts
- Annual meeting

Institution Support:

- Permission to use IAT logo as agreed upon in relation to ToolBook classes
- Program administration and coordination
- Inclusion of the Affiliated institutions in IAT Course Catalogue
- Delivery of IAT mailing labels
- Referrals as appropriate
- Joint advertising and publicity as appropriate

Cost Recovery and Discounts:

- Realistic cost recovery model

Flat fee, no royalty structure
IAT-negotiated discount from Asymetrix on purchase of manuals for ToolBook
Discount from IAT on purchase of Express Author software

Flexible Terms:
One year commitment, continued participation optional

Program Details

The IAT selects institutions that are geographically distributed throughout the United States that meet the selection criteria outlined below:

- appropriate hardware, software, and peripheral equipment available
- appropriate on-site technical support available
- adequate facilities for hands-on training
- previous experience offering training
- availability of qualified instructors
- access to administrative support

Participating institutions are responsible for enroling their instructors in the appropriate IAT courses. After completion of the training and the satisfactory demonstration of a training module, the individuals will be authorized to offer training at their institute.

The affiliate programs work on a cost-recovery model. According to 1995 prices, Affiliates can recover the $25,000.00 in total annual fees by conducting a minimum number of classes during the year. The IAT will refer individuals requiring training to the affiliated institutions. Once costs are recovered, additional income remains with the institution. Further details are available in the IAT package.

Miscellaneous

Their current focus is on distributed learning environments, in contrast to distance education. This really means freeing up faculty from the constraints of time and place.

The IAT has focused on multimedia in the past, but is moving away from this towards tools for the Internet. They have developed a tool for multimedia development, called Express Author.

WEBApp is a tool the IAT has developed to enable you to set up a web page to deliver software to your computer with considerably reduced user interaction. Free copies of WEBApp are available on the Web.

For Follow Up

Wake-Forrest University in Winston/Salem has an IBM Thinkpad initiative/agreement through which students enroling at the university are provided with an IBM Thinkpad, the cost of which is covered by an increase in their tuition fees. The university has committed to integrating the use of the Thinkpads into instruction. The contact is Cindy McHenry, and IBM Marketing Representative, and their preference for contact is through Cindy in Raleigh, NC.

John Kutcy, the Director of Higher Education (905) 316-6185) for IBM Canada is a person with whom we should follow up.

Contact will be made at Durham College to discuss their satisfaction with their detailed, structured visit to the IAT (they took 16 people, including the President and VP Academic).

Applications to Fleming

Fleming may want to pursue the partnership request. The last open meeting is on October 16-17, 1995. Given the technology orientation of the partnership, detailed descriptions of the meeting have been provided to Jim Angel for follow up. This document will be updated with the names of the current partners. Cost of the partnership is US $5000.00.

Fleming may also be interested in exploring the viability of the IAT Affiliate program.

The project review session was also of interest to the members of the LRC Project Team. Given the level of expertise available at the IAT, and their breadth of experience working with institutions implementing similar projects, it's possible that we may be able to avoid serious pitfalls through consultation.

ESTRELLA MOUNTAIN COMMUNITY COLLEGE, PHOENIX, ARIZONA

OCTOBER 2, 1995

KAREN WHITNEY, INFORMATION ACCESS FACULTY
ED SANTAVICA, FACULTY, INFORMATION ACCESS FACULTY

Background

Estrella Mountain CC is the tenth and newest member of the Maricopa Community College District. It was established in 1990 as an educational centre of Glendale College designed to meet the diverse needs of the local community - diversity in ethnicity and income. The campus currently serves 2000 learners. (Highest illiteracy rate in SW Maricopa; very high income area)

The first phase of this new campus opened in 1992.

Model

Facilities are centralized; for example;

Komatke Hall
Komatke Hall contains all the services needed by students and visitors in one convenient location. Registration, academic advising, counselling, financial aid, assessment and testing, the bookstore, the cashier, university transfer centre, the Visitor's Centre and food service (coffee) are all located here in a user friendly accessible site.

Estrella Hall
This area serves as a national model for the integration of information resources. Included in the 54,500 square foot building are an integrated library and computing centre with the capacity of over 200 microcomputer stations, electronic classrooms telecommunications rooms, community conference rooms, study rooms a learning assistance centre and administrative offices. The area has a manager who is responsible for the workstations, the open entry/ open exit courses and manuals.

The **INFORMATION COMMONS** is the focal point of the campus.

1. For **ACADEMIC COMPUTING**, it contains Macintosh microcomputers connected to the

campus computing network which provides access to local, regional, national and international computing based resources. Services include:

- access to computing resources in the Internet
- orientation for and support of self-paced courses
- software workshops
- coaching in software use
- development of "information packets" in coordination with the faculty and staff to support instruction within academic courses and programs (e.g., Tryptiks)

2. **INFORMATION RESOURCES** provide access to and training in the retrieval of electronic and print-based resources. Services are integrated and coordinated with the teaching and learning program and are designed to increase students' academic success. Services include:

   - access to Internet
   - access to computerized library catalogues
   - help in accessing online resources
   - access to all periodicals
   - Economic Development Information Centre (EDIC) provides print resources designed for small businesses and economic development. Searches of information are conducted here as well as access to professional networks for business.

3. The **LEARNING ENHANCEMENT CENTRE** offers academic support services and training to increase the probability of students' success in course. Services include:

   - study groups and individual tutoring
   - training in use of multimedia
   - assessment of skills
   - referrals to social agencies (e.g., more tutoring)
   - workshops and seminars
   - instructional support for ABE, ESOL and GED classes

Organizational Structure

There are five academic directors reporting to two assistant provosts.

Assistant Provost for Instruction

- director of general education
- director of development education
- director of student services

Assistant Provost for Information Technologies

- director of educational information resources
- director of academic computing
- director of computing and communications

Academic directors meet twice a month with reps from faculty, management and support.

Issues

- Who owns what? Copyright, faculty ownership, etc.)
- keeping up with technology (expense)
- keeping part time faculty involved (compensation)
- faculty not compensated additionally for tech-based development

Applications to Fleming

- Physical integration of three service areas
- Partnerships: Concurrent credits for high school students
  Communities - training and meetings
  no corporate partners (money raised through bond issues)
- Instructional Team Academy: think tank, brainstorming, peer support
- District Wide Instructional Councils for each subject area. Work on course outlines
- All faculty are involved in advisement (number of hours each week)
- Open entry/open exit are within the framework of a semester
- One stop shopping for registration, new students
- Computer purchase plan for students and faculty
- Children welcome but no daycare facilities
- Block purchase of SLIP/PPP accounts
- CIS course have $10 computer use surcharge

GLENDALE COMMUNITY COLLEGE, PHOENIX, ARIZONA

OCTOBER 2, 1995

VICKI WIDLAK, TOURS AND INFORMATION
MANNY GRIEGO, DIRECTOR - INSTRUCTIONAL COMPUTING
CHUCK WEST, DIRECTOR - INNOVATION CENTRE

Model

Three types of "non-traditional" programs offered:

Open Entry/Open Exit

- no semester boundaries and competency based (usual max=1 year)
- 90 different courses mostly business and how to use commercial s/w packages. Instructional manuals are developed by faculty
- 3,000 new students per semester, carryover of approximately 1500 courses

Fixed Entry/Open Exit, Self Paced

- English Course begin semester together but finish is variable.

Flex Math

- require once a week meeting with instructor

Students work in PIT (Perfect Instructional Terrain) independently.

Instructional Team : 2 full time faculty (business), student lab assistants, instructional technicians (9 full time) part time staff for night

High Tech Centre 1

This centre is a 31,250 sq.ft. multidiscipline computer and technology facility. A 9,100 sq.ft. "pit" is located in the centre of the building. It holds 336 microcomputers and terminals distributed among 28 islands holding 12 wok stations each. Surrounding the pit are administrative offices, a conference room, teleconference room, switchboard, TV studio, language lab, CAD lab, academic and administrative computer centre.

HT1 is open 101 hours each week.

High Tech Centre 2

HT2 is a semi-circular 26,400 sq.ft. multi-discipline computer and technology facility. The building has ten classrooms and faculty offices. A 4,700 sq.ft. open lab area adjacent to the faculty offices is capable of holding 144 microcomputers and terminals in 12 islands of 12 stations each.

In this building's centre an electronically controlled classroom contains 25 microcomputer workstations and a fifteen foot rear projection screen.

The Centre for Innovation, reference library and offices are also in the centre area.

Centres serve as general computing services as well as for above programs.

Content experts provided by content areas.

Instructional materials developed by faculty, published by faculty and sold in bookstore. Faculty get royalties.

Innovation Centre

This area specializes in "presenting teaching materials"

- To develop multimedia presentations (and sell)
- Faculty are the content experts
- Centre provides programming, development screen design, pressing CD ROM
- Centre sells copyright to publishers and splits royalties with faculty
- no formal instructional design expertise although available form county

Computer Classrooms

Many have networked computers and instructor's machine has projection unit

Of Note

- Students pay technical fee over and above tuition ($25)
- Tracking of student progress by a data base (INFORM : Instructional Network for Faculty On-Line Record Management) students have access to their grading . They can report to instructors and leave messages.
- INFO TELLER: Neat narrated video tour of campus and HIGH TECH 1. faculty and staff

images, hours and location of offices, campus directory assistance, names of people who can help.

- Dial-in access limited due to concern about copying software
- Personalized first screens. Students only have access to software used in the course they are taking
- "Electronic Forum" students and faculty can discuss together; enhances participation in alternate deliveries. Software designed by Maricopa
- College Technology Committee: plans and procedures. Makes recommendations for future and for capital expenditures. Anyone can belong
- Computer sections of Math and English
- Open entry/open exit courses have become a significant source of revenue for Glendale.

MESA COMMUNITY COLLEGE, MESA, ARIZONA

October 3, 1995

Sonia Moreno, Special Events Department
Bill Holt, Dean of Instruction
Chas Moore, Director, Center for Teaching and Learning
Ken Costello, Multimedia Developer
Brenda Nielsen, Multi-Use Computer Lab Faculty
Chris Zagar, Information Commons

Background

Mesa Community College is located in Mesa, Arizona (a suburb of Phoenix) and is a part of the Maricopa District Community College System. Over 22,000 students are enrolled for credit in earlybird, afternoon, evening and weekend classes. The College also serves 39,000 Motorola employees and 8,000 other students for noncredit business and industry training.

MCC has recently been awarded nearly $50 million in bond money to update supplies, remodel, improve library, build new science labs, and possibly purchase land.

Faculty Support

Five years ago, faculty support at MCC was not coordinated centrally. At that time the Center for Teaching and Learning was established so that faculty innovation, instructional design and instructional technology initiatives were available from one centralized service area. According to Dean Holt, the Centre has someone to drive it who is faculty oriented, a Dean who is willing to put funds into it, and a structure that basically allows faculty to work on whatever related projects they want.

One way in which faculty innovation is supported at Mesa is through the Kaleidoscope project. Each semester five faculty are selected for the project and given 6 hours of time release (from a 15 hour load) in the first semester, and 3 hours of release in the second semester to work on special projects that relate to some kind of teaching innovation. The participants are selected on the basis of their project proposal. At any given time, 10 faculty are involved (5 in their first semester, 5 in their second) and the group meets once a week to provide support, ideas, and mentoring for each other.

As well, a new funded mentoring system has been established in which "champions"are funded

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to help their peers professional development using a mini-grant system. This year $25,000 has been allocated for such educational development projects.

Credit courses are offered in a number of areas relating to effective teaching and learning.

Center for Teaching and Learning

The Center is responsible for faculty development, instructional development and training of various kinds. Center staff are available to help prepare instructional materials such as videos, multimedia, software etc. as well as to plan for use of instructional technology. One particular staff member, who is a retired math teacher, helps faculty to locate software, trains them to use it, helps them to prepare the first class using it, and provides continuing support as necessary.

The center provides major support for participants of the Kaleidoscope project. A key focus of the faculty support provided is to actually train instructors to produce their own materials.

Information Commons

The library at MCC is divided into two distinct areas: the quiet study area/circulating collection, and the Information Commons. The Information Commons has a large open computing area with networked Mac and PC computers. These machines (72 in total) allow for Internet access, access to tutorial software, etc. In addition, a number of machines are designated for CD-ROM access, and their are three technology based classrooms which are used for group instruction. Computers are set up on the standard Maricopa Y-shaped desks, and most desks have a laser printer which can be accessed using a debit card. (Note: The debit card system is contracted to an outside firm at no cost to MCC; in fact, they collect some profit from it.)

In keeping with the traditional library philosophy of open access, network accounts are not required here; but there are restrictions on the activities. For example, students are not able to do word processing here.

Ultimately, any networked computer will allow access to all services.

At present, plans are being drawn up to expand the library area into a multi-purpose facility which will incorporate the Center for Teaching and Learning, Information Commons, Multi-Use computer lab, etc. Anticipated completion is fall of 1998. The funding will be from the $50 million bond raised earlier this year.

The Information Commons includes a Learning Enhancement centre which provides academic support services including: computer assistance, tutoring, basic skill building, and college success information.

Screening for potential participants in the Mesa Independent Learning Option (MILO) is done in this area as well. MILO is a new option which started this fall, and includes 22 course offerings. It is primarily intended for distance students and involves students being assigned a faculty advisor for the purposes of negotiating a learning plan that will be used to achieve the learning outcomes for a particular course. The course runs for a maximum of 12 weeks, with contact between the teacher and student occurring a minimum of once a week. Presently 20 p/t faculty are involved, paid on a per student basis (over and above their regular teaching load).

Multi-Use Computer Lab

- 180 computers
- ID cards are required for access. Only students who are registered in computer-based

courses may gain access.

- activities include open entry/open exit courses, open computing components of traditional courses. The classroom portion of these courses is usually done in a demo lab which incorporates the equipment necessary for the faculty member to demonstrate the computing concepts.
- the lab is an instructional facility, not a support facility
- open entry/open exit courses are self-paced. The allowed time is based on credits. (e.g., 1 credit course, 12 weeks; 2 credit, 15 weeks)
- retention rate for oe/oe is same as for rest of campus.
- faculty assignment to the multi-use lab differs by department. Computer science: 40 oe/oe students = 1 credit hour (according to Brenda, this is too many to start with!)
- faculty are not required to do any grading.
- students can choose grading scheme: letter grade (requires them to write a final exam) or Pass/No credit
- staffing includes faculty, lab technicians (primarily hardware), lab assistants
- student tracking system allows students to determine what their final mark will be based on progress to date (and assuming similar progress will continue). System (district-wide) is being changed to an ORACLE based one which will be more learner-centred.
- English computer sections were oe/oe, but they pulled back from that. Students now see their instructor once a week.
- need lots of network people
- need processes to deal with system changes, etc.
- recommend doing a dry run of oe/oe courses using oe/oe materials in a structured class.
- difficulties arise in hiring part-time for responsibility of oe/oe courses because they are hired by the semester, student tracking becomes a problem,

CENTENNIAL COLLEGE CENTRE FOR INSTRUCTIONAL DEVELOPMENT

OCTOBER 11, 1995

MARY PREECE, DEAN OF ACADEMIC STUDIES

Background

The Centre was set up 2 years ago under the direction of Cathy Henderson. Mary Preece became the full time Director of the Centre and it was staffed 2 year faculty secondments.

Mary Preece is now the Dean of Academic Studies, which includes OBS, the student assessment centre, English and the Centre for Instructional Development. In June of this year, staff development functions moved to the centre which was renamed the Learning and Teaching Support Centre.

Within the Centre, they try to model the types of delivery they promote and given this, have developed a multimedia package on learning outcomes and PLA (entitled "Lo and Behold" and "Responsive PLA", respectively). Copies of these packages are apparently available through staff at Fleming.

Assessment Centre

Centennial currently uses the CAAT C and CAAT D to test every student applying to the college. Some programs currently use the scores for admission and others use it strictly for streaming of students in math. The charge for writing the test is $20.00 per student and they are presently testing approximately 15,000 students annually.

Mary's organization is looking at computerizing the assessment centre, as well as developing a Community Learning Centre. Through the Community Learning Centre they plan to provide facilities for general assessment, reading level assessment, independent learning, math and English remediation in a model similar to the Open Learning Centre at St. Lawrence College.

Remediation in English is very important given the student population at Centennial; more than 60% are at a remediation level of English.

They are currently reviewing software options with regard to testing and assessment, as well as developing partnerships with community agencies for language training.

Centennial and George Brown are planning to run a joint pilot project to review software for use as a basis for admission. They are currently investigating Compass and are not seriously considering the CPT.

They hope to include the Community Learning Centre in a SAC-sponsored student centre.

Staffing

The original Centre for Instructional Development was staffed by a full time director and four professors seconded as consultants in the following areas, with the indicated responsibilities:

- *Instructional Development*: to facilitate the development of skills necessary for college professors to engage in effective curriculum development, delivery, and evaluation.
- *Instructional Technology*: to facilitate the diffusion of instructional technology within the College, and prepare faculty for its application.
- *College Standards*: to coordinate and support Centennial College's efforts to influence, interpret and implement CSAC policy, and to develop and introduce a program review model.
- *Prior Learning*: to coordinate and support planning, directing, implementation, and evaluation of PLA and articulation processes.

Since that time, the Centre has been renamed the Centre for Learning and Teaching Support. The consultants are now referred to as facilitators, and some changes in the roles have occurred.

- The CSAC role is the same, but there are now two people involved; one full time general education facilitator and one half-time secondee working on program review.
- All three staff development personnel now report to the Centre, one of whom is a full time support person. There is still one full-time instructional development facilitator. As well there is an instructional development advisory panel, and a joint PD committee is being formed.
- The instructional technology consultant no longer exists in the centre; the original role was established with special project funding. (Note: the role has moved to Academic Information Technology)
- A new position of research facilitator has been added to provide academic research support.

Most of these positions are still two year faculty secondments, which are renewable. Mary recommends staggering the appointments and also taking care when re-integrating people back into the classroom after the secondments finish.

Training

The majority of staff training and development is done through the School of Access and Lifelong Learning. The College pays the fee for staff taking courses (approximately $20.00) and through the grant funding of Con Ed, the staff professional development is made affordable. There is talk of moving to a PD voucher plan.

In addition, an Academic Renewal Fund ($150,000 this fiscal year) exists to support collaborative projects relating to curriculum renewal. Projects funded through this initiative include:

- developing learning outcomes for all post secondary college courses
- incorporating general education requirements into post secondary programs
- integrating generic skills into curriculum
- reviewing and revitalizing existing programs
- developing new programs
- developing innovative delivery strategies

Replacement costs are provided to allow for time release and team submissions are encouraged. Project proposals are considered by a Project Selection Committee which is chaired by the VP Academic.

LE COLLÈGE DES GRANDS LACS

OCTOBER 11, 1995

JOHANNE ROY, HEAD INSTRUCTIONAL DESIGNER

Background

Le Collège des Grands Lacs is the new francophone college serving southwestern Ontario, which opened this fall. This new college has been established as a "college without walls"; there is no main campus, but rather a number access sites where all course offerings are available via one of several interactive distance education technologies.

Presently there are five remote access sites: Toronto, Welland, Penetang, Windsor and Hamilton. Long term plans including making open learning facilities available and increasing the number of remote sites.
This fall, there are 150 students enrolled in 5 programs (approximately 25 courses.)

Delivery Technology

A total of $500,000 was spent to equip all five centres with four different technologies: audioconferencing, audiographics (both Telewriter and Smart Technology), and videoconferencing. Dedicated phone lines at a fixed fee have been negotiated with Bell in order to save on long distance charges.

This type of equipment facilitates *collective* distance learning opportunities, that is students learning as a group. The decision to focus on the collective approach was done in part to help build community bonds among francophones in SW Ontario. Generally speaking, according to Johanne Roy, the course content will dictate whether an individualized approach is appropriate or not.

There are five technologists (one per site) and one head technologist.

Information on costing: Athabasca U., U. of Wisconsin (cost analysis of correspondence); Collège l'Acadie (info on costing of distance ed).

Teaching and Learning Issues

Training on how to use the equipment was given to students as well as staff. One of the biggest issues for traditional faculty is the perceived lack of control that they have when they are not physically in the presence of all their students. According to Roy, the teacher becomes a manager of learning: the courses must be extremely dynamic with lots of interaction among student and participation by students including the presentation of content. The learners must be very involved and more responsible for their own learning than has traditionally been the case.

Each access centre has a director who usually wears another hat as well. In addition, there is someone who is responsible to interface between teachers and the director and can act as a proctor for exams if necessary.

Assignments are faxed to teachers; fax machines are available at all sites, but it is the learners' responsibility to actually transmit their work.

Supports for learners are very important; even with collective approaches to distance ed, learners can feel isolated and vulnerable. These supports may include the ability to communicate with other students and the instructor outside of scheduled class times. A wide area network will be in place soon linking the five sites so that computer conferencing can be used to supplement class activities. (Note: U. of Moncton is doing some distance ed via computer conferencing; U. of Guelph has a book on instructional design for computer mediated communication.)

Teachers are encouraged to have a student facilitator at each site to be their "eyes and ears".

Instructional Design

Le Collège des Grands Lacs presently has five programs which have been adapted for distance delivery. They are in the areas of health, tourism, office admin, nursing and business admin. Course development/adaptation is done by 2 people: one instructional designer and one content expert. The content expert is usually the teacher who will be teaching the course. The instructional design model has four checkpoints which must be monitored by the head instructional designer.

Generally speaking (about 65% of the time), the course content is not developed from scratch.

In the instructional design of a course, the selection of instructional strategies is key as it determines the delivery mode. For example:

Videoconferencing: Good for teaching psychomotor skills, more from the point of view of providing feedback to students than for demonstration.

Audiographics: Used when a large amount of graphics are required, but live video of students and teacher is not required.

For each course, a teacher's guide is provided. New support materials are created, but normally they try to select existing instructional materials. (Note: there was insufficient funding to put libraries at each site.) Many activities are listed in the teacher's guide in order to give some flexibility. Suggested activities are designed to complement the main delivery system, but the design also includes suggestions for adapting them for the other two systems. The guide includes a standard intro and "how-to-use" section, as well as standard appendices.

Editing is done externally.

A liaison with TVOntario has been established. This person identifies areas in courses where video would be appropriate and looks in TVO's collection for materials which can be edited appropriately.

Relevance for Fleming

The team was supplied with a number of materials: a copy of the instructional design/adaptation model in use at Grands Lacs (in English), a guide to the model (in French), and a sample syllabus and teacher's guide (in French) for a course which is going very well.

Johanne offered to come to Fleming to give a more formal presentation of the model. Staff from Grands Lacs would also be available to provide training in the use of the model and general instructional design principles.

BANK OF MONTREAL INSTITUTE FOR LEARNING
OCTOBER 13, 1995

TAIT MACDONALD, DIRECTOR

Background

The Institute was championed by the Chairman and CEO of the Bank of Montreal, a self-taught individual who did not have the opportunity to pursue formal education, and opened in January 1994. The Institute serves several purposes: it provides an opportunity for employees to integrate the core skills they may learning at a distance, with softer skills taught at the Institute; it provides an opportunity for employees to experience excellent customer service, through the hotel facilities and it provides an opportunity for employees to interact informally with other employees at all levels and business units in the organization.

The Bank of Montreal encompasses three different business organizations:

- Nesbitt Burns (brokerage house)
- the Bank of Montreal
- Harris Bank (in the United States).

All business organizations are very different in their focus and several are somewhat unaware of the existence of the other units. The philosophy behind the Institute is to provide for learning in the classroom, and more importantly, to promote synergy outside of the classroom.

The Institute provides education for approximately 250 students per week, from all companies and a variety of employment levels. The opportunity to come to the Institute is considered a reward for most employees who accumulate education time. They are required/encouraged to participate in 5 days training per year through the Bank (Canadian average for training is 1-2 days).

The Institute provides several types of training:

- distributed training (accounts for approximately 70%)
- on-site classroom training (accounts for approximately 30%)

Given discrepancies in the technologies available in the 1500 Bank of Montreal locations within Canada, the bulk of the training is paper-based to accommodate the varying levels of technology. Eventually each Branch will have a PC dedicated to learning.

Distributed Learning

Distributed courses are those that have a fixed entry and defined point of exit and are typically courses that are considered to be for hard skill learning, focused on financial skills (or business unit skills) required for their job. The philosophy is that if you give the employee the materials, they can decide where and when they learn. They are then rewarded for pursuing learning by attending the Institute.

While undertaking the distributed learning, the employees are still in contact with an instructor, although for product training, their initial contact is with their immediate supervisor who is familiar with the course content.

Classroom Learning

At the Institute for Learning, the focus is on interaction; the time employees spend learning together is used to mix people from different levels of employment, different cities, and different business units together to learn from each other. The time is also used to communicate strategic directions, assumptions and underlying factors for business decisions to employees. This ensures that as business priorities change, employees are constantly updated, take the information they receive at the Institute with them when they return to their Branch, and share it with their colleagues. Learning core skills at a distance enables employees to focus on integrating the course skills with 'softer' skills while at the Institute.

Courses on site are often taught by senior executives who teach outside their area of expertise (e.g., a legal executive may teach the customer service course).

Evaluation

The focus of any evaluation of the learning acquired while at the Institute is to begin collecting data before the course has started. Six to eight months following any learning opportunity, the employees performance is reviewed to determine if and how things might have changed.

Support Systems

Thirty - forty people are employed in-house to develop, redesign, and distribute course material. As well, a desktop publishing group exists to support these people. The Institute is associated with Simon Fraser University for distributed learning.

The requester of the training is responsible for paying for the development. A development team of adult education experts is paired with the content experts for the development of the training.

There are approximately 90 staff responsible for development, however, that increases to approximately 150 during development cycles, as content experts are included.

Of the regular staff, approximately 25% are faculty, 25% are distributed learning experts, 25% are operational staff, and 25% are considered relationship managers and are responsible for marketing the Institute within the Bank organization.

Facilities

The Institute offers a variety of learning opportunities and provides room for experimentation and growth. In addition to 12 large classrooms there is a library, 20 breakout rooms for work in small teams, and eight role playing rooms equipped with video playback equipment to enhance self-awareness.

The Institute is designed to promote informal interaction. The hospitality area has coffee and reading rooms in each hallway, common rooms have televisions, games and VCRs, and the main common area has a bar and piano for social events. The Institute also has a large gymnasium, a pool, and a workout room.

GEORGE BROWN BELL CENTRE FOR DISTANCE EDUCATION

OCTOBER 13, 1995

RICHARD ROSEN, DIRECTOR
ROB SPARKS, INFORMATION SYSTEMS TRAINING CONSULTANT
SHERIE-LYNN NEAL, DISTANCE ED & VIDEO CONFERENCING SPECIALIST (BELL)

Background

The Centre, located at George Brown College, represents a joint effort between George Brown, Bell Canada, and the Teletraining Institute of Stillwater, Oklahoma. It is a facility devoted to promoting interactive, videoconferencing-based distance education. The Centre serves as a test site for various equipment manufacturers, a training facility for distance educators, and a development and delivery facility for courses that respond to market demand, including community college and customized training programs.

Facilities

At the time of the visit, there were three studios in existence:

Studio A: 39 seat distance classroom developed by CBCI Telecom, primarily focused on videoconferencing.

Studio B: 22 seat classroom developed jointly by Bell's Client Assurance program, Adcom Electronics and SMART Technologies. Includes PictureTel videoconferencing systems, audiographics systems, and various multimedia communication and control elements.

Studio C: 20 station Multimedia Learning Centre provided by Bell Canada. Will be used for instructional design courses (at a distance) using the latest software and CD-ROM technology.

All three studios include such technologies as document viewing cameras (Elmo), etc.

Programs

There is a big focus on a comprehensive "Train the Trainer" program, using the Teletraining Institute's curriculum and trainers who have been certified as distance education instructors. Initial courses include: Distance Learning #1, Distance Learning #2, Distance Learning #3, Introduction to Teletechniques, Teletechniques I, and a Manager's Workshop.

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The instructors for these courses are 12 faculty from various areas of the college who are being trained (in Oklahoma) to train others in distance ed as well as delivering their own programs. Next semester (Winter 1996), they will be SWF'd to deliver some regular college courses at a distance. Three courses will be delivered in conjunction with the Centre for Process Technology (Lambton College, Sarnia), Bell, and St. Lawrence. These will be mostly interactive video, but will be supplemented with audio as appropriate. Satellite is being investigated as a possibility.

George Brown is discussing the possibilities of Contact North sites receiving GB curriculum.

Three programs presently in development for delivery next semester include Health Records Administration, WHMIS and a full electronics program, which will be delivered to the states. Dr. Colin Simpson is the electronics contact, and has worked on key partnerships. The program will be offered in Ontario, but will be significantly different (more details may be available in late November.) Program will lead to a George Brown diploma, possibly with credits towards a degree at a partner university.

In order for a program or course to be considered for development/delivery through the centre, a business case must be made including a complete outline of the delivery from start to finish and details of the market.

Implementation

In order to get the Centre up and running there was a multi-functional implementation committee which was critical.

Negotiating between the partners started November 94, board approval was received January 1995, facilities renovations were complete May 1995, and equipment was installed June 1995.

APPENDIX F: SELECTED ARTICLES

Reprint One

Beaudoin, M. (1[illegible]). The instructor's changing role in distance education. *The American Journal of Distance Education*, **4**(2), 21-29.

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The American Journal of Distance Education
Editor: Michael G. Moore
American Centre for the Study of Distance Education
College of Education
The Pennsylvania State University
403 South Allen Street, Suite 206
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Reprint Two

Catchpole, M. (1992). Classroom, open, and distance teaching: a faculty view. *The American Journal of Distance Education*, **6**(3), 34-44.

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Reprint Three

Gonick, L. (1995, November18). The virtual seminar on the global economy [Discussion] *Horizons in Education Discussion List* [Online]. Available e-mail: horizon@gibbs.oit.unc.edu

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Tempe AZ. 85287-0101

Due to copyright restictions, pages 122-144 have been removed.

APPENDIX G: BIBLIOGRAPHY

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